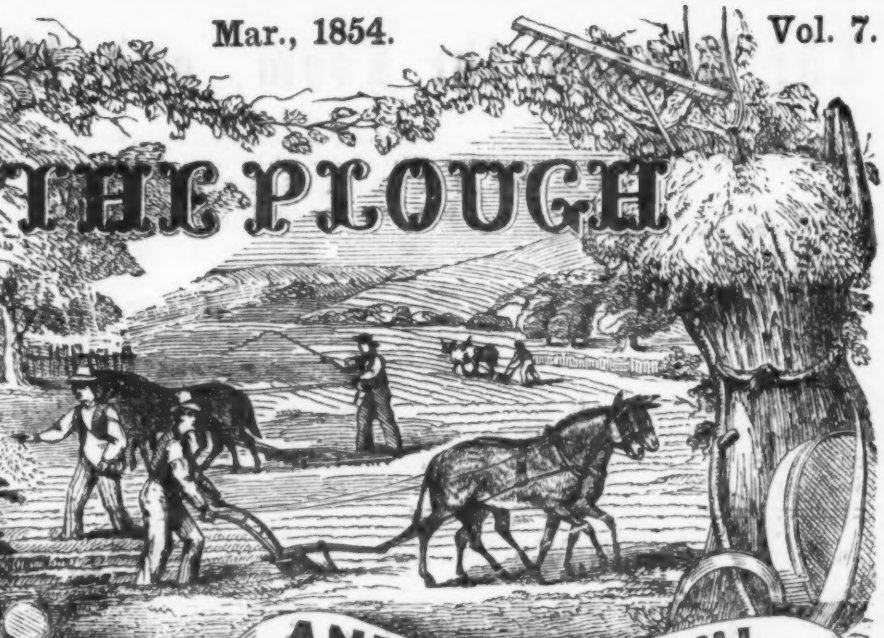
No. 3. Mar., 1854. Vol. 7.

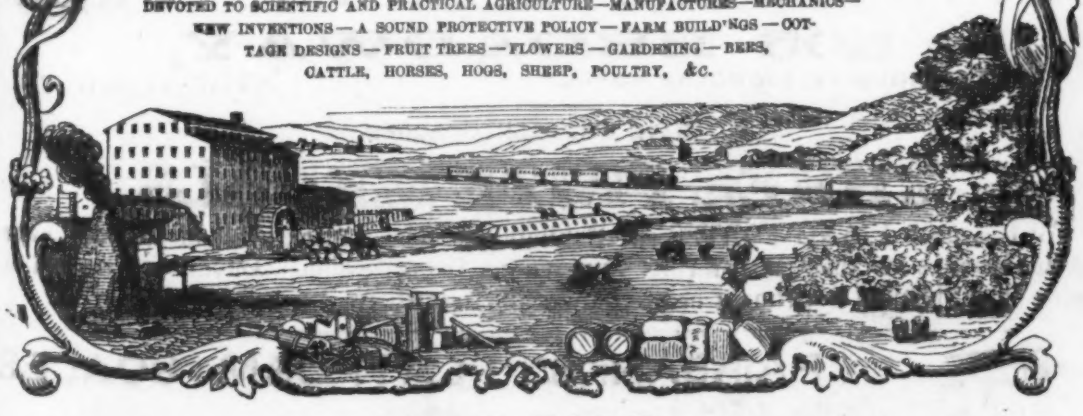
THE PLOUGH



THE LOOM AND THE ANVIL.

FARMER AND MECHANIC.

DEVOTED TO SCIENTIFIC AND PRACTICAL AGRICULTURE—MANUFACTURES—MECHANICS—NEW INVENTIONS—A SOUND PROTECTIVE POLICY—FARM BUILD'NGS—COTTAGE DESIGNS—FRUIT TREES—FLOWERS—GARDENING—BEES, CATTLE, HORSES, HOGS, SHEEP, POULTRY, &c.



NEW YORK:

PUBLISHED BY MYRON FINCH, No. 9 SPRUCE STREET.

PHILADELPHIA: R. C. THOMSON, 27 SOUTH SIXTH STREET.

☞ *All Letters containing moneys, and sent by mail for this Journal, should be directed to the office, at No. 9 Spruce Street, New-York.*

For Prospectus, Terms, Postage, Contents, &c., see next page of Cover.

The Plough, the Loom, and the Anvil.

The Plough, the Loom, and the Anvil, is issued MONTHLY, and contains SIXTY-FOUR PAGES of closely printed matter, richly embellished with appropriate engravings, and will hereafter be published at the following

GREATLY REDUCED RATES OF SUBSCRIPTION:

One Copy	one year payable in advance,		$3 00
Two Copies,	$2.50 each,	" " "	5 00
Five "	2.00 "	" " "	10 00
Ten "	1.50 "	" " "	15 00

All letters should be post-paid, and addressed to MYRON FINCH

OFFICE OF THE PLOUGH, THE LOOM, AND THE ANVIL, No. 9 Spruce St., New-York.

POSTAGE.

THE PLOUGH, THE LOOM, AND THE ANVIL to actual subscribers is chargeable in any part of the United States, when paid quarterly or yearly in advance, at only 18 and 3-4 Cents per Year

EDGAR C. SIMMS is our agent for BALTIMORE and vicinity, at the rooms of the Maryland Institute, or 36 N. Front street.

CONTENTS OF NO. 3.—VOL. VII.

The Plough, the Loom, and the Anvil.

PART II.—VOL. VI. MARCH, 1854. No. 3.

GEOLOGY.—COAL FORMATIONS.

WE purpose to give a concise view of this great subject in its several phases. It must be admitted to be a topic replete with interest, whether viewed in a scientific or economic connection. To understand the latter, however, we must know something of the former, and we shall venture therefore to presume upon the approval of our readers, while we attempt a simple statement, intelligible to the unlearned, of the more important facts belonging to such an essay. And we invite you, reader, whose eyes are now glancing along these lines, by way of testing their quality, not to be deterred from following us from page to page, in successive numbers even, until we are convicted of tediousness upon a fair trial.

The opinion was advanced by Liebnitz, and is still entertained somewhat extensively, that in some distant period the entire earth was a liquid mass, under the action of heat of great intensity. As the outer surface began to solidify, and form a crust, granite was one of the oldest "formations." It does not occur in regular *strata*, or layers. It has not the appearance of having been poured out upon a hard surface, and suffered thus to become solid, but always consists of compost masses, granulated, that is, in grains or concretions, not in crystallized forms. Nor does it contain any fragments or other remains of previously-formed rocks.

If the world was ever in such a condition, what other consequences could rationally be anticipated than the following? As the melted mass, now confined by a solid crust, boiled and heaved, being wrought upon by forces mighty beyond conception, but ever-varying in their intensity, frequent eruptions ensue. Some portions of this crust are elevated; others, perhaps, are depressed. By-and-by, huge quantities of the melted matter burst through the walls which have confined them, and pour themselves out on the uneven surface, and are there left to cool and solidify, in their turn to be covered by similar eruptions. The elevated portions would still be left bare, while those which were depressed would gradually approach to the condition of a uniform plane. So far, the results supposed completely answer to phenomena everywhere witnessed on the crust of the earth.

It is not, however, a point upon which all are agreed that the entire earth was ever, at one time, in the form of a liquid. Various theories have had and still have their defenders, although so far as belief in the fact that all has been in that condition at some time or at different times, there is but little disagreement. Numerous fractures on beds of granite, which are filled with more recent granite or other crystalline rocks, strongly indicate successive operations of this kind. There are some very notable examples of this.

Go another step. Let these repeated eruptions cover the solid crust with the liquid matter still occupying the central regions of the earth, and let

chemical or other existing forces, operating through a long period of time, cause these substances, after they have become solidified, to waste and crumble—a process which is now constantly going on—and then let the waters and the winds exert their natural influence in collecting or scattering these granulated or fragmentary portions, and chemical agencies exert their legitimate influence, as they do at the present day, and we shall have all that is necessary to explain the *general condition* and arrangement of the outer crust of the earth. And if we can thus account for admitted facts, it may be wiser to receive than to reject this theory of the earth's formation. If this is not the rational explanation of these phenomena, the scientific world would gladly hear something more in accordance with known facts.

This process would require a vast period of time. The progress of the new creation, or the change from utter chaos to a condition suited to the support of animal life, must have been very gradual, requiring the lapse of ages, and this long period may have been previous to "the first day," as is generally believed, or during the progress of the "days," each day being an epoch.

But if granite is the oldest among the rocks, what other forms of solid matter were coëxistent with it? Gneiss is one of the oldest, and bears marks of having been formed under water. Often, it is stratified, or in layers, showing that a solid mass was beneath it at its formation. Sometimes it is hard as granite, and other specimens we have often made to crumble into powder in our fingers. Mica slate is perhaps nearly as "old." So is hornblende. No remains of animals are ever found in these rocks, and who can tell us why we should believe that, during the process of these formations, any animals existed? If they did exist, they must have possessed peculiar organisms, to endure such extreme changes as those to which they must have been exposed in the midst of such revulsions of nature. This is the epoch of the primary formations, although it is not now supposed that all "primary" rocks were formed at the earliest period.

It may be in place here to state that the phrase, "the crust of the earth," has not a very definite meaning. That is, we know but little of its thickness or its substance. Perhaps a depth of ten miles may have been examined, but even this is only about 1-400 the distance from the centre of the earth to the surface.

Another remark is necessary, that we may not mislead. All granites are not supposed to belong to the rocks first formed, or solidified, but certain forms known by this general term, are believed to be of more recent origin. Still, all granites *underlie*, that is, they occupy the lowest place in the order of super-position. Hence, Sir Charles Lyell proposes to call them *hypogene* rocks, a term formed of two Greek words, signifying *to be* and *under*.

For the same reason, other rocks, as volcanic, have been termed *overlying*. These terms define their position, but not their absolute condition; for since they first occupied the spot where they are now found, they may have essentially changed their external and also their essential characteristics.

Other names are applied, of obvious import. Thus, rocks formed more recently by the action of subterranean fires, are called VOLCANIC. These contain no vegetable or animal remains.

Those rocks which spread out in strata, or beds, like the sediment at the mouths of rivers, are called AQUEOUS, as they are generally supposed to have been thus disposed by the action of water.

Fossils are the bodies, or the traces of bodies, animal or vegetable, which, by the action of natural causes, have been long buried in the earth. Of these, shells are most abundant. These are sometimes found forming a large

portion of the solid mass of rocks. They occur at very different degrees of elevation above the ocean. In the Himmalayas, fossils of sea-shells occur at an elevation of 16,000 feet. In this northern section of country, the vicinity of Lake Champlain is most abundant in these interesting remains. We have seen localities so full of them that one could scarcely step without treading upon them. These are imbedded in limestone. They are also found, as we ourselves have witnessed, more than a hundred feet above the present surface of that lake.

Rocks of igneous origin, yet differing in their characteristics from the volcanic, are called PLUTONIC. They are supposed to have been formed under great pressure, perhaps at great depths, and to have been melted, and afterward cooled with extreme slowness.

One other class remains to be described. There are certain rocks that contain no fossils, no sand, pebbles, nor any such indications of aqueous origin, which do still form strata, corresponding in form and arrangement to aqueous formations. These may have been originally deposited by water, and afterward been exposed to the action of subterranean fires, and thus made to assume another texture. These rocks are highly crystalline. Statuary marble is an illustration of this class; so are mica and hornblende slates. These are termed METAMORPHIC rocks, the name denoting the change or metamorphosis which they have undergone.

These four classes, the aqueous, the volcanic, the plutonic, and metamorphic, have reference, it appears, to their origin, and not to the time of their formation.

The various degrees of elevation at which any given rock is visible, do not necessarily affect its general relative position. If at a certain point, you forcibly thrust the lining of your coat through the broadcloth, it does not follow that it ceases to belong to the lining. Granite "crops out" in a thousand places, just as the ends of one's fingers do through his gloves, though by a different process. Instead of wearing away the outer covering, the inner one is forcibly thrust out.

Next above these "primary formations," are those which Werner called TRANSITION rocks, the period of which is divided into three systems, though that name has recently been discarded. The lowest group is the *cambrian*, into which the mica slates, and gneiss, and slaty gray-wackes are found. Organic remains also occur, which consist chiefly of the lowest forms of animal life, the polypod, with the brachipods, corals, &c. Above these, is the *silurian* period, in which are organic remains of sea-weeds, zoöphytes, trilobites, shells, corals, &c. Recent discoveries, however, have brought to light, from these rocks, the track of a fresh-water turtle, a species of animal (reptile) not found in earlier investigations. This occurred on what is known as the "Potsdam sandstone," which lies at the base of the silurian system. It is not a single specimen, but such remains are very numerous. In 1851, specimens were laid before the Geological Society of London, containing the fossil of a quadruped, which gives strong evidence of having been a fresh-water tortoise. Previous to these discoveries, the trias (which lies above the coal, and to which we have not yet referred) was the lowest formation in which any trace of a chelonian had been discovered, though others have since been found, and are described in the last work of Sir Charles Lyell. These fossils of the higher species, in the older and lower formations, occur both in England and in this country. We allude to this, not as specially important as to the specific object before us, but because it belongs to the subject, and is full of interest to those especially who hold to the doctrine of

"progressive development" from the lowest forms of animal life to the highest of all, man. And so far as that theory is concerned, one such example, if well established, is as ruinous as a million. Nor are such examples solitary. A molar tooth of an animal belonging to the order "mammalia" has been found in the stratum of the lias, which is just above the coal formation. Mammalia fossils occur also in the trias of Germany. Birds have been discovered in the lower eocine of England and of Switzerland, and North America. Four species of reptiles have been brought to light from the old red sand-stone of Europe, while remains of fish have been found, "plentifully in the devonian, and sparingly in the silurian strata."

Next occurs the devonian period, in which occurs the old red sand-stone, a conglomerate of various pebbles and fragmentary rocks, and abounding in marine fossils. Various metallic ores also occur. This underlies

THE COAL FORMATION, which consists of carboniferous deposits, and which abounds with vegetable remains, among which those of numerous varieties of the fern are most abundant; and nearly all these vegetable fossils belong to tropical climates; and this fact adds to the probability that the theory above suggested as to the formation of the solid earth is correct. Those regions are now very far from being of tropical temperature. Marine fossils are rarely found in this formation.

The COAL or CARBONIFEROUS group contains a variety of minerals in connection with the coal, while often and usually even the coal constitutes but a small portion of the whole mass. According to Sir Charles Lyell, the coal strata in the north of England are, by estimation, 3000 feet in thickness, while the veins of coal do not in the aggregate exceed 60 feet. In South Wales, the coal measures are found by actual measurement to be 12,000 feet in thickness. In breadth or horizontal extent, there is nothing like uniformity.

Among the minerals found in connection with coal, are limestone of different varieties, with various marine fossils, and the old red sand-stone, which often underlies it, sand-stones, and shales. Arenacious shale, which is sometimes called fire-clay, or that suited to the manufacture of fire-bricks, is often found underlying the coal. In South Wales, this uniformly lies beneath the coal. As there are certain minerals found in this connection, so there are certain kinds of vegetable fossils, which are usually found among the veins of coal. Among these, as already suggested, ferns are the most numerous, about five hundred different species of them having been described. Some of these species are still living, but most of them are extinct. All these vegetable fossils belong to the grand divisions, acrogens and endogens, though the number of the latter is but small, not a single fossil specimen of an exogenous plant having yet been discovered.

Among the coal-beds, growths of the vegetable kingdom have been discovered in all conceivable states and conditions. Sometimes trees are found in a vertical position, that is, vertical (perpendicular) to the plain of the bed. Sometimes the stump and roots only have been found, while, in other instances, the trunks of trees, &c., are inclined, or in a horizontal position. Indications often leave no doubt that these are found on the spot where they grew, while it is equally obvious, elsewhere, that they were drifted from their native forests and swamps by some mighty force. In South Staffordshire, according to the authority above cited, in about a quarter of an acre, 78 stumps with their roots attached were found, while their trunks were lying prostrate in all directions. Portions of these trunks were converted into coal. The roots of these trees formed a stratum of coal ten inches thick, beneath which was a layer of clay two inches thick, and below this another forest, resting on a

seam of coal two feet in thickness. Five feet below this, was a third forest, with large stumps.

Here, then, are evidences of forests submerged, which, by various chemical agencies, and during the lapse of an immense period of time, have changed the composition of their elements, and broken up their regular organisms, so as to become coal.

What agencies overwhelmed these forests, and covered them with drift, may never be demonstrated. But in the Bay of Fundy are witnessed processes which illustrate the possibility if not the probability of changes like those described. There, as is well known, the tides are very high, often more than sixty feet, and to this the rapidity of their currents, of course corresponds. These rapid currents constantly undermine and sweep away the whole face of the cliffs, while new growths of trees are constantly seen, succeeding those which were destroyed; to be, in their turn, overwhelmed and succeeded by others. This condition of things is seen for two or three miles in extent, from north to south, and to much greater distance from east to west, in the banks of the streams which intersect *the coal-fields*. A piece of coal has been found in Germany, near Laubach, on which the annual circles could be counted.

The nature of the change from wood to coal, according to Liebig and other chemists, is as follows: The elements of carbonic acid are disengaged from the wood, and the elements of water unite with it. All varieties of wood-coal contain more hydrogen than wood, and less oxygen than is necessary to form water by uniting with this hydrogen. It is a remarkable fact that in coal regions the springs of water are often impregnated with carbonic acid gas. So also the inflammable gases which stream out of clefts in the strata of mineral coal, always contain carbonic acid. Various analyses and experiments prove that by this continual removal of carbonic acid the wood is gradually changed into mineral coal, while hydrogen being constantly disengaged from mineral coal, in the form of a compound of carbo-hydrogen, until it entirely disappears, the mineral coal is converted into anthracite.

Coal-fields, then, are composed of decayed vegetable growths, and they were formed after that period in the history of the world's formation when it possessed a temperature fitted to sustain vegetable life, and those remains being to a great extent, apparently, of the vegetation of a tropical climate, though far removed from the torrid zone, indicate a very different condition in respect to heat and moisture, from that witnessed in the same regions in our own times.

We have thus at length reached our subject, the coal region. We purpose to give a general description of the several strata above the coal, and thus a more intelligible view of the subject of practical mining may be obtained, including the indications of its presence, &c., with the principal localities which occur in our own country, and other parts of the world.

All the rocks which we have mentioned belong to the PRIMARY FOSSILIFEROUS or PALEOZOIC, of the most recent classification.

STOCK IMPORTATION IN OHIO.—Dr. A. Watts and Alexander Waddle have gone to Europe, to select stock for the Clark County Company. We also notice a movement in Tuscarawas county for a stock company.

FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

PROXIMATE ORGANIC ANALYSIS OF THE SEVERAL PARTS OF THE KERNEL OF MAIZE OR INDIAN CORN.

BY JAMES H. SALSBURY, M.D.

ALTHOUGH this examination may be of little practical value, yet, so far as it bears upon the physiology of the kernel, it has many points of interest. That each of the several parts should possess a composition so peculiar to itself is sufficient evidence that each is designed to perform a distinct office. It has formerly been supposed that the oil resided mainly in the corneous part. This, however, is not the case. There is a much larger per centage in the chit than in any other portion of the kernel. This part also is decidedly rich in albumen, while it contains less zein or gluten than the corneous portion.

SMALL WHITE FLINT VARIETY.

	Corneous part.		Farinaceous part.		Chits.	
	With the water.	Calculated with't the wat'r.	With the water.	Calculated with't the wat'r.	With the water.	Calculated with't the water.
Oil,	2.38	2.867	2.85	3.068	28.50	30.256
Zein or gluten,	5.02	6.043	0.55	0.592	2.45	2.601
Starch,	43.96	52.539	54.65	58.827	11.80	12.527
Sugar and extract,	16.96	20.292	21.50	23.043	17.70	18.790
Dextrine or gum,	8.56	10.242	3.80	4.090	8.00	8.493
Fibre,	4.74	5.671	4.50	4.845	7.05	7.433
Matter distilled out of fibre by potash,	0.62	0.742	3.05	3.283	1.00	1.061
Albumen,	1.26	1.508	1.60	1.722	16.40	17.409
Casein,	0.08	0.096	0.40	0.430	1.30	1.380
	83.58	100.	92.90	100.	94.20	100.
Water,	16.394		8.32		6.56	
	99.974		101.22		100.76	

CHITS OF THE SMALL WHITE FLINT AND RHODE-ISLAND CAP VARIETIES.

	Chits of the early Can'da white.	Chits of the small white flint variety.		Chits of the Rhode-Island cap variety.	
	Calculations without the water.	With the water.	Calculations without the water.	With the water.	Cal'l'tions without the water.
Oil,	29.333	25.320	26.724	27.530	29.882
Zein or gluten,	1.500	2.150	2.269		
Sugar,	6.400	14.666	15.473	14.667	15.920
Sugar and extract,	11.600				
Dextrine,	9.000	8.933	9.425	8.933	9.696
Starch,	9,733	10.578	11.161	11.100	12.049
Fibre,	10.200	11.133	11.746	11.133	12.084
Matter separated from fibre by a weak sol. of potash,		2.433	2.559		
Albumen,	19.634	17.235	18.184	16.433	17.837
Casein,	2.600	2.333	2.461	2.333	2.532
	100.	94.781	100.	92.129	100.
Water,		5.410		8.015	
		100.191		100.144	

The analysis of this and the preceding table afford some results, which, if not valuable in an economical light, are at least very interesting, so far as they bear upon the composition of the several parts of the kernel. The embryo or chit is the essential part of the seed. Indeed, it is to the forming, maturing, and protecting of this that the main efforts of the plants are directed, and the rest of the seed is subservient.

When matured, the whole plant seems to have accomplished the end in view; and if an annual, it soon decays, or if not, after a short period of partial repose, its efforts are again directed to the forming and maturing of another set of embryos.

In maize, the farinaceous and corneous portions of the kernel seem to be designed merely for the purpose of protecting the embryo, and for furnishing to it nourishment in the early stages of its vital action.

The chit or embryo is decidedly the richest part of the seed. It is literally the store-house in which are collected a large portion of the most nutritive bodies of the kernel. They seem to be stored here for immediate use in nourishing the plumule and radical during their early stages of development.

In composition, the chit differs materially from the rest of the kernel, in containing a very large per centage of oil and albumen, and a small per centage of starch. In the analysis of the chits given, the oil amounts from 26 to 30 per cent., and the albumen to from 17 to 20 per cent. of the dry matter, while the starch ranges from about 10 to 12½ per cent. In the corneous part, the oil does not exceed 3 per cent., and the albumen 1½ per cent., while the starch amounts to about 52½ per cent. A farinaceous portion affords a little over 3 per cent. of oil, and a little less than 2 per cent. of albumen, while it gives of starch nearly 59 per cent. The zein exists more largely in the corneous portions than in any other part, and the dextrine and gum more largely in the corneous part and chit than in the rest of the kernel.

It is well known that the mouse and squirrel prefer the chit to the rest of the kernel. It is generally supposed they choose it on account of its softness. These analyses show, however, that their tastes have taught them to prefer it for another reason.

The fact is, they have preceded us in a discovery of its superior richness, and up to this day have kept their own counsel, and refrained from divulging this secret to their less (in the field) discriminating neighbors.

The very large per centage of oil in the chit may have something to do in guarding this part under some circumstances from becoming hard and shrivelled, and under others, from absorbing a sufficient amount of water to favor germination. In this way, it may give to seeds their power of retaining vitality for so great a length of time. Seeds of maize have been known to germinate when thirty years old, and would probably retain their vitality much longer when placed in circumstances which would neither cause them to germinate nor decay.

Oil-Cups.—An improvement in self-acting oil-cups for steam-engines, is said to have been made by David Clark, of Philadelphia, who has taken measures to secure a patent. The oil-cup has an opening at its bottom, in which a conical double steam-valve works, which is opened by the steam to allow a certain quantity of oil to be fed in at regular intervals, by the letting on and shutting off of steam.

FLAX.—ITS CULTURE, &c.

Flax, as an economical crop, is worthy of and is receiving increased attention. It has been often cultivated for the seed alone; but recent improvements in machinery give additional facilities for the preparation of the fibre for the market. The seed is used for the manufacture of oil, and for medicinal purposes. An acre of the plant produces from 18 to 20 bushels.

The chaff of flax is also of value, and the refuse of the seed, after its oil is extracted, is sold as oil-cake. As fattening food for cattle, and for increasing the milk of cows, no kind of food, perhaps, has stronger claims to our attention.

Since the manufacture of flax-cotton has been introduced, a new impetus has been given to the growth of this crop, and when our farmers are better instructed as to its culture and manufacture, the amount grown will be greatly increased.

In Great Britain, linen manufactures are carried on to a very great extent. According to the statement of Mr. Wilson, the President of the Royal College of Agriculture, in Chichester, the annual import into England of dressed fibre, during the last ten years, was 70,000 tons, and for 1851, was 124,784 tons, worth twenty-five millions of dollars, and the import of linseed for crushing was 650,000 quarters, and of oil-cakes, 75,000 tons, worth *ten* millions more—making thirty-five millions of dollars per annum, which goes chiefly to Russia and the northern ports, and which could be supplied by the United States.

There were employed in spinning flax in 1851, in

	Spindles.		Spindles.
England,	265,658	Russia,	50,000
Scotland,	303,125	Austria,	30,000
Ireland,	500,000	Zollverein States,	80,000
France,	350,000	Switzerland,	10,000
Belgium,	100,000	U. S. America,	15,000
Holland,	6,000		

And the capital thus invested may be estimated at 40 millions of dollars, of which 25 millions belong to Great Britain. Spinning is carried on on the Continent, to so great an extent that the yarn thus produced is much more than is spun on all these spindles.

It further appears, from the same authority, that the manufacture of linen in England has increased from 45,000,000 yards in 1805 to 110,000,000 yards in 1850, and that her aggregate *export* of yarns, thread, small wares, and woven goods in 1852, was $26,684,355, of which near three fifths were consumed in the United States.

The culture of flax in Ireland, in 1848, was 53,868 acres, and has gradually increased, until in 1853 it was 175,469 acres. Under favorable circumstances, we may expect an average crop to produce from 30 to 40 cwt. of straw, and 16 bushels of seed per acre.

Experiments were made by Doctor Hodges, for the purpose of ascertaining the relative proportions of the produce of flax, and the distribution of the inorganic matter in them. The flax employed had been steeped in the ordinary way, and was found to contain 1.73 of ash. Of this air-dried straw 4000 lbs. weight were taken, which produced of dried fibre 500 lbs.; of fine tow, 132 lbs.; of coarse tow, 192 lbs.; of fibre in all, 824 lbs. These products contained in the dressed flax, 4.48 of ash; in the fine tow, 2.08 of ash;

in the coarse tow, 2.56 of ash; or in the whole fibre 9.12 lbs. of inorganic matter; so that of 59.08 lbs. which the crop had withdrawn from the soil, remained the useless portions, while only 9.12 lbs. were carried off in the dressed fibre. So if we compare these results with those obtained from the analysis of an acre of wheat, for instance, we shall see that while the flax fibre takes away with it 9.12 lbs. of inorganic matter, the wheat crop, grain and straw together, abstracts about 365 lbs. from the soil.

By the census of 1850, it appears that there are grown in this country, 13,391,415 lbs. of flax, and that from this is obtained 562,810 bushels of flax-seed. New-York, Kentucky, and Pennsylvania cultivate flax more extensively than any other States, while Ohio exceeds every other State in the quantity of *flax-seed*. Whether this difference is true, or only founded on truth, we are not certain, although, as already suggested, the plant is cultivated in many places exclusively for the seed.

At the rates mentioned above, the value of this crop would be as follows:

13,391,415 lbs. flax, - - -	$2,008,712.25
562,810 bushels seed, - -	703,512.00

The various experiments that have been made, the results of which have been given to the public, ought to induce careful attention to this subject. With good and land tolerable cultivation, we cannot doubt that the crop would prove highly profitable. We select the following from those that have been published. The first is from the New-York Agricultural Transactions, and was furnished by Mr. W. Newcomb.

Weight per acre - - -	3848 lbs.	
" threshed straw, - -	2664 "	
" dew-rotted, - -	2009 "	
" dressed lint, - - -	348 " at 10 cts - -	$34.80
Clean seed, - - - -	13 bush. 1 pt. - -	16.27
Yellow, - - - - - -	1 1-4 bush. - -	78
		$51.85

In 1849 he had one acre yield 548 lbs. of flax lint. He says, the average yield of seed is eight bushels per acre, and that the average yield of flax is 250 lbs.

In the Norwich (Eng.) *Mercury*, the following results are given, as the cost of cultivation and the value of the crop, the seed not being included:

Expenses and profits of one acre of flax.	£	s.	d.
Two winter ploughings, - - - - - - -		12	0
Spring harrowing, ploughing, sowing, and bushing, -		11	0
One thousand gallons liquid manure, - - - - -		15	0
Three bushels of seed, - - - - - - -	1	0	0
Weeding and pulling crop, - - - - - -	1	2	0
Steeping, drying, re-tying, &c., - - - - -	1	0	0
Scutching 54 stone of flax, 3s. per ton, - - - -	8	2	0
Expenses, - - - - - - - -	£13	2	0
Value of crop			
54 tons of flax, sold at 9s per stone, - - - -	24	6	0
Realized profit, - - - - - - -	£11	4	0

Samuel Druce, a distinguished agriculturist of England, read before the Royal Agricultural Society, the following:

Cultivated, 1851, 5 acres, 2 roods, 35 perches.

Sales of produce.	£	s.	d.
Sale of flax-seed 116 3-4 bushels, at 8s,	46	10	0
Sale of flax-straw, 12 tons 2 cwt 2 qrs. not prepared, which would have been far more profitable, but sold on gross at £3 per ton,	36	7	0
Sale of chaff at 5s. per acre	1	8	7
Gross return of seed and straw,	£84	6	7

Expenses of Cultivation.	£	s.	d.
One plowing, 10s. per acre,	2	17	3
Sowing and harrowing 1s 6d,		8	7
Weeding at 2s. per acre,		11	5
Flax-seed 13 1-4 bushels at 9s.,	6	1	6
Rent of land 48s. per acre,	13	14	9
Taxes at 6s. per acre,	1	14	4
Pulling flax at 14s. per acre,	4	0	1
Carting and staking at 4s.,	1	2	10
Threshing,	5	7	1
Winnowing,		12	6
	£36	10	4
Net profit,	£47	15	9

This instance is related by Mr. Deman (p. 48) in his excellent treatise on Flax Cultivation. It will perhaps only be necessary to quote one more table from Dickson's book, p. 12.

Produce.	£	s.	d.
40 stone flax at 10s,	20	0	0
Seed for feeding cattle,	4	10	0
	£24	10	0

Gross returns of one acre.	£	s.	d.	£	s.	d.
Rent and charges,	7	11	6			
2 1-2 bushels of seed,	1	10	3			
Tillage,	1	5	0			
Weeding,		12	0			
Pulling, watering and grassing,	1	16	0			
Expense of sowing seed,		10	0			
Scutching 40 stones,	2	0	0	9	4	9
Net profit per acre,				£15	5	3

Mr. Wilson estimates the product per acre, at from 30 to 40 cwt. of straw, and 16 bushels of seed. If we take this estimate, with the cost of production as he calculates it, the result will be as follows:

16 bush. seed at 1.25,	$20
500 lbs flax fibre at .15,	75
130 lbs. fine tow at .10,	13
200 lbs. coarse tow at .4,	8
Produce per acre,	$116

The cost of preparing the fine fibre, by Watt's process, is estimated at $50 per ton. One laborer can cultivate 20 acres of flax.

MINNESOTA.

We give below, the substance of an interesting, letter from O. H. Kelley, Esq., Secretary of Benton County Agricultural Society, to the Secretary of the New-York State Agricultural Society. The statements made are interesting to all farmers, and especially so to the farmers of the West, presenting the very details we desire to know of that extensive region.

Northwood, Minnesota, July 19, 1853.

In giving you information regarding crops, and our mode of culture here, you must bear in mind that our farms are all new; that is, it is not more than four years since our largest and best farms were comprised in the vast prairies of our Territory. The sod, older, probably, than Methusalah, at any rate as hard and tough, generally, as if it had been trodden down by innumerable herds of buffalo, for centuries. This has to be turned over by means of large breaking plows, of a medium size; 17 inch, drawn by three yoke of cattle, I prefer, where there are not many grubs; a 24 inch, with five yoke, is better where grubs are plenty. Our "grubs" are mostly the roots of oaks, the tops of which have been burnt off by prairie fires, year after year, leaving only annual shoots above the soil, while the roots are frequently from four to ten inches in diameter, and often spreading near the surface so as to cover three feet in diameter. These require a heavy plough and team to cut them off without checking the progress: and speaking of this, there seems to be a diversity of opinion as to the best season for breaking, and the manner of leaving the land. Many contend that the sod will rot better where it is "cut and covered," and left uneven, so that the air may get under; others prefer that the plough turn only what it cuts, and leave the sod flat. From my own experience and observation, I must say I favor the latter method, and have the sod at least 3½ or 4 inches in thickness, or plough to that depth. As to the former, it is always advocated by those who own breaking teams, and who break by the acre; prices ranging from $3.50 to $6, therefore, the more ground they go *over* (they don't go *through* more thant wo-thirds) with the plough, the more they make. By the sod being laid flat, there is a good chance of sowing a crop of grain the first year; and if some of the under soil is turned with it, it is easily harrowed without tearing the sod up, and also furnishes a chance for the sod to sprout, and can better then push down its roots through the matted roots of the sod; otherwise, when the sod is "skinned," there is no soil to cover the seed with, and consequently no chance to plant until the sod rots; and if broken the last of May, or first of June, the grass will sprout up nearly as well as if it had not been turned at all.

The best time to "break prairie" is another question. I always break in June, as near the first as possible, and prefer to sow with oats, at the rate of three and a half bushels per acre. This crop grows rapidly, and shades the ground, answering for mulching; harrow twice before sowing, and once after; this loosens the soil, and allows the rain to soak in, and consequently to rot the sod; leave the stubble on the field, and cross-plough the following spring. This prevents the weeds from getting ahead of the crop the second year, and the sod is generally sufficiently rotted to be quite mellow the second year. The crop, the first year, if a fair season, is from 10 to 20 bushels of oats per acre, (call it 15,) at 50 cents per bushel, our lowest market price, in this country; this pays all expenses of breaking, seed, and harvesting, &c.

The second year, follow with corn or potatoes, any crop that will require the free use of the hoe, so as to cut up all clumps of sod, and pulverize the soil. This year I harrowed all my ground as soon as ploughed, twice, and a part of it four times, as some of it was not cross-ploughed until two years after it was broken. I think myself a gainer by so doing—I mean harrowing, for I certainly raised a third as much weeds last year as I did grain, on the piece not cross-ploughed, and that was of course a loss.

Some say they prefer to break in July or August; but, as a general thing, they would break in June, *if* they could, for the grass is always high enough then to allow of turning under a good sward, whereas, if left till later it is too high to cover. As to breaking later in the season, I have seen the experiment tried; about twenty acres were broken in September and October, and as much more in the spring of the next year—all sowed with oats; the spring crop did well, and sold for six bits per bushel, (75 cents,) whereas the fall-ploughing produced a crop that was so feeble they were left standing, and were eaten by the black-birds, which, by the way, are plenty here, and are *exceedingly* fond of corn.

There is no necessity of manuring the soil here until the sod is demolished, though the third year I found that compost did not do any *harm* to the crop; and this year, (my fourth,) I find that manure does good service in the corn where it is very sandy.

I have mentioned our method of getting our farms under way, that you may compare them with the old farms in the East; but I assure you I had much rather cultivate *ten* acres on this farm than *one* on any farm I ever visited in the East, for this reason; now that the soil is in good working condition, it is, in comparison, like hoeing or shovelling in clear sand; and as to rocks or stones, there is but one stone larger than a hen's egg on thirty-five acres of ground now under cultivation, and there are a hundred and fifty more acres just like it on the farm; that stone will be out of sight in a few days.

The soil is a sandy loam; on the bottoms, and also where there is a good growth of oaks and hazels, the soil is almost jet black, with much less sand than on the open prairie. In some parts of the Territory there is clay, producing excellent crops; in other parts (though, if I recollect correctly, they are found in the same vicinity,) rock in ledges of limestone and trap-rock of granite, in considerable quantity; but within a circuit of twelve miles, in my vicinity, there is no ledge of any kind yet discovered, and we have to resort to the river, at low water, where we can obtain stone or loose rock, of all shapes and variety, for cellar walls. The soil stands a drought exceedingly well; we had a fair trial in that line last year, and yet it seems almost impossible, with a subsoil of red sand lying upon gravel. Our dews are very heavy, coming on about sunset, and in such copious quantity that the grass, and every thing out of doors, appears as if drenched with rain; about ten o'clock in the forenoon the grass is dry. Our seasons are peculiar; cool nights and mornings commence the latter part of August; generally about the twenty-eighth of September we have the first frost, and often there is no second frost for ten days after. October is generally a delightful month here. In November the air gets cool, and we are ready for winter by the middle of the month. Ice runs in the river; generally a flurry or two of snow. About the tenth of December the Mississippi closes, and this is a season of interest to all on the river, for it is from the islands, and the opposite shore, we procure our fuel and timber; and there is a noble beauty and grandeur in the closing of this river, which is equalled only by its breaking up in the spring,

and it must be seen to realize it; my pen is too feeble an instrument to describe the wild freaks of this mighty river. Snow falling in November frequently stays on the ground until the January thaw, which commences about the middle of the month, and we have very pleasant weather for a couple of weeks, and perhaps it will thaw at noon of each day. I have seen the snow nearly disappear, one year, in January. In February we have our coldest weather—the mercury going into ecstasies; ranging, during last February, at sunrise, from thirty-four degrees above zero, to thirty-two degrees below. In March, about the first to tenth, we finish crossing the river on the ice; and from the tenth of March to the fifteenth of April, the ice starts, and in three or four days after, a week at furthest, the river is again clear for navigation. During the winter and spring months, the farm-work here is the same as with you in the East; sugar-making in March, and cutting up firewood for summer; ploughing, and building and repairing fences and tools for spring work, in April. We begin to plant and sow in May, beginning with wheat, oats, and peas; then corn, about the 15th, and so on, finishing, if possible, with ruta bagas, the 1st day of June. We then have a week or ten days for "fancy-work," before hoeing, which we contrive to complete by the great and glorious Fourth of July, a day, by the way, which we Yankees, even here, on the outskirts of creation, think as much of as our kindred do in the Eastern States. On this day, we have the first green peas, plenty of strawberries, (wild ones are very plenty and very large, of delicious flavor.) About the middle of July, we commence haying, at present resorting to the sloughs and bottom-lands, where the wild grasses are more luxuriant; tame grass not having yet been introduced, to any extent. Of the grasses native to our latitude, I must speak hereafter. The grain harvest usually commences about the last of July, or first of August. This completed, we are reminded of the near approach of autumn, and the end of the season soon arrives, with the reward for our labors, oftentimes ten fold what we deserve, for I hardly think there is any part of the country where labor is more plentifully repaid by good crops, than Minnesota.

I have gone somewhat more into minuteness than I intended, but it is to enable you to compare the seasons with those of New-York.

In the summer season the weather is very warm, and if it were not for the fine breezes we almost daily enjoy, the heat would be too oppressive for out-door work—commencing the latter part of May—and until the last of August, our growing season, the mercury, at 12 o'clock M., very often is at ninety degrees above zero, in the shade; and frequently, for curiosity, I have placed the thermometer in the sun, from four to ten minutes, and seen it rise rapidly to 130 degrees. And yet, with all this severe heat and cold, we are healthy and vigorous, with appetites that would astonish the servants at the "Astor House," or "St. Nicholas." I sometimes think it is fortunate that our crops are plentiful, or else we should come short before a harvest.

NEW TELEGRAPH-MACHINE.—An attorney at Rising Sun, Indiana, by the name of Hayden, has invented a very simple machine, by which any child who knows his A B C's, can send dispatches with perfect accuracy. There is no possible chance of a mistake being made, which is so much desired in this important science. Steps have been taken to secure a patent, and the machine must necessarily come into immediate use. It will lessen the expense of telegraphing 50 per cent.—*Exch.*

BREADSTUFFS.—PRODUCTION, EXPORTS, AND PRICE.

THE subject discussed in the following paragraphs is exceedingly important, and the opinions advanced are worthy of careful attention. They are taken from the *Railroad Record*, published at Cincinnati.

There has been in the last year a decided failure in the grain crops of Europe, except in Russia and Poland; so much so, that in France and Italy all custom duties have been taken off for the importation of grain, and in England the price has risen since last June from twenty-two shillings to forty shillings per quarter, or nearly double.

From the beginning, we have regarded this as the most serious difficulty in the way of relief to the money pressure. There is double the amount required to manage the transfers of grain, which makes a difference in Europe and America of *one hundred millions of dollars in the demand for money*. But this is not all. The price of all other food rises with the price of bread, and alternately it requires a vast deal more money to carry on public works. These facts will suggest to our readers the difficulty caused by the rise in the price of grain.

In this country we are undoubtedly gaining, to the extent of our bread export, in the increased price and quality. We share, however, in the financial difficulties which that deficiency in foreign crops occasions.

But how much of breadstuffs have we to export? One thing is certain, that in regard to wheat, we have not near so much as many sanguine persons believe. We *can* raise wheat almost indefinitely, but we do not, because there has been a very moderate foreign demand, and a very moderate price.

In the *Record*, (No. 36,) November 3d, we said:

"In regard to the amount of wheat *actually* raised in the United States, there is a mistaken idea. We do not (according to the English allowance per individual) raise any surplus whatever! But, by the great consumption of Indian corn, as a breadstuff, we make a surplus of wheat; and it is in that way only. The past two or three years being good wheat years, we have an old stock lying over; but we cannot after all export to any such extent as England and France need. They get their largest supplies from the Black Sea. If we export twenty millions of grain this winter, the spring price in our markets will be unusually high."

The truth of this is now seen at New-York and New-Orleans, where grain and flour have not come forward with anything like the freedom expected. In the face of this fact, the *exports are larger than they have ever been*. The consequence of this is obvious. The price is steadily rising, and in all probability will continue to rise. The crop of wheat in Ohio, in 1853, was probably equal to those of 1851–2, but by no means equal to that of 1850 when it rose to the enormous amount of *thirty-five millions of bushels*. Probably our crop in 1853 was 25,000,000, and of that, (by eating some Indian corn,) we can manage to spare *fifteen millions*. But all the United States cannot spare as much more.

Let us now look at former exports of grain from the United States. Reducing wheat to flour, we give the export of flour and grain for the last eight years, in quantity and value:

	Amount.	Value.
In 1846, bbls.,	2,612,176	$13,350,644
" 1847, "	5,482,000	32,183,166
" 1848, "	2,589,393	15,788,568
" 1849, "	2,413,873	13,036,030
" 1850, "	1,511,178	7,762,193
" 1851, "	2,437,635	11,550,067
" 1852, "	3,337,239	14,424,352

It will be seen from this statement that the highest amount of wheat exported in any one year (1846–7) was 27,410,000 bushels, and the price was not as high then as it is now. In 1846–7, we exported 612,000 barrels of flour to France, but we have now exported nearly that amount to France since the 1st of September.

In our last number, we stated that the exports of flour and grain from the United States, since the 1st of September, were greater than they were in 1846–7, but the price is also much higher. The advance of price proves clearly enough that although in consequence of the heavy European demand, the exports from New-York have been hurried with great rapidity, yet, in fact, the *domestic supply is not equal to that demand.* The result is, that the export cannot be continued largely, except under the temptation of *very high prices.* In that case, a large part of our population will resort to Indian corn, and export the wheat. But how is that to be done, when the price of Indian corn is also rising rapidly? We need not inform our readers (who well enough know it) that potatoes are *treble* in price to what they were a few years since.

There is an idea that an immense amount of wheat is brought from Michigan, Wisconsin, &c. This is all fallacious. The whole amount of flour and wheat brought into Milwaukee from the interior, in 1853, by the Mississippi railroad, was 187,000 barrels, a mere drop in the bucket. Of all the flour and wheat cleared by the canal at Buffalo, *three fourths came from Ohio.* The population of the frontier States grows faster than their grain production. New-England and the South are importers of grain from the new States. There are but four or five States that are really exporters of wheat.

If in 1846–7 we could export only 27,000,000 bushels of wheat, it may be put down, as quite certain, we shall not export more than 30,000,000 in 1853–4, unless the price is enormously high.

From the facts we have here exhibited, it appears that the *bread question* is one of momentous interest. We pretend to no knowledge, hardly an opinion, as to the continuance of scarcity, or the rate of prices; but it is quite certain that our remark of November 3d is strictly true, that "if we export 20,000,000 bushels this winter, the price will be unusually high." It is already so, and we have only reached the 20th of January.

We would in no way aid speculation in grain, but facts are things which should be known and reflected upon.

A PROFITABLE FARM.—The farm of Bryan Jackson, near Wilmington, Delaware, consists of 220 acres. On this farm he employs three hands all the year, at $132 per annum, each; two men extra for six months, at $12 per month, and day-hands, whose wages amount to about $50 a year; making in all, for labor, a cost of $590 a year. Mr. Jackson, in the *American Farmer*, says: "The sales of the farm the past year will not vary much from fifty-three hundred dollars."

USEFUL FOR FARMERS.

We find the plan of a cheap green-house in a recent number of the *Country Gentleman*, which is worthy of attention. Though we cannot illustrate with diagrams, it is quite intelligible without them.

A Cheap Green-house.—For those who are fond of flowers, there is nothing more interesting than their culture during the dreary months of winter. A few kinds will flourish well in the dry, hot, and changeable air of ordinary stove-rooms; but it is not always convenient nor practicable to occupy the limited space of living-rooms in this way, and most plants will not succeed so well here as in a cooler and more uniform temperature. An ordinary green-house is a somewhat costly structure; and regulating the fire during a whole winter is quite a formidable task. For green-house plants, properly so called, or those which do best in an air but few degrees above freezing, we have lately adopted a plan which we find to succeed admirably with but little care, and without the cost or attention of fire-heat. Although this plan is not altogether new, we believe a description will be useful and acceptable to many of our readers.

It consists of an extension made to an ordinary cellar, on the south side, and covered with a sash like that of a common green-house.

In order to obviate the necessity of fire-heat, it is requisite that so large a surface of sash should be double-glazed. The bars are made on *both* edges in the same form that ordinary sash is made on the glass side for the reception of the panes. We have had cross-bars made between these sash-bars, like ordinary window-sash, so that the lower panes are set in as in common windows, the upper or lapping-panes merely resting on these cross-bars. This arrangement makes the windows rather more secure from the passage of air, but it is not absolutely necessary.

This structure being attached to an office where a fire above the cellar is not regularly kept up, sometimes needs a very small fire in a stove when the thermometer sinks to zero; but if connected with a dwelling constantly occupied, no artificial heat would be ever needed.

We find also in the same paper the following account of an experiment in the culture of peas, which meets our views:

Plaster for Peas.—At the request of some of my friends, I send you the result of an experiment I made last season in the use of plaster.

I have used plaster for fifteen years, on all sorts of grain, potatoes, &c., upon all the kinds of soil I possess. But thinking that I derived no benefit from its use on grains, for the last ten years I have only applied it to grass and peas.

I belong to an agricultural society, as every farmer should do, and of course intend my crops for premiums. When the committee examined them, I called their attention to the difference in the different ridges of my pea-crop, the parts where plaster was sown, exhibiting a dark-green and thrifty appearance, while those ridges without plaster were pale and unthrifty. In harvesting, I cut two ridges of equal size, one plastered, the other not—and threshed them separately. The one plastered yielded one bushel and eighteen quarts, while the unplastered one produced two quarts less than a bushel.

FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

GRUBS IN PEACH TREES.—SHORTENING IN.

It has become a fact pretty well established, that soil and climate adapted to the growth of the peach are to be found, in greater or less extent, in nearly every portion of the country. This is seen in the exhibitions of beautiful peaches so often witnessed in our cold New-England, hitherto celebrated mostly for its productions of ice, rocks, and men. Scarcely an agricultural or horticultural fair was held last autumn in which this fruit did not claim a conspicuous position, and attract the admiration and wonder of the spectators. Many, from what they saw at these convocations, will undoubtedly be induced to try their fortunes in the business, and we sincerely hope it will be with satisfactory results, for we would gladly see so delicious and healthful a fruit placed abundantly within the reach of every body.

We have alluded to the success attending the peach culture, (which, we admit, is now carried on in a very small, yet promising way,) in New-England, supposing that if it succeeded in these States, its success must be nearly certain in every State of the Union.

Yet, as sure indications as the peach may have given of its adaptedness to a wide range of territory, there are obstacles to be contended with in order to insure for it satisfactory results. Among these, the grub, so perpetual in its annoyance, and so fatal in its operations, furnishes one of the least formidable. So far as our observation has extended, it slyly secretes itself in the earth until age and strength have armed it to the teeth for mischief, when it insinuates its way into the tree, under the darkness and *cover* of earth, where it noiselessly works on in its mission of destruction, until its errand is complete.

Different methods have been pursued to cut off the march of this desolator of beautiful verdure and heart-gladdening fruits, each productive of different results. Among the many which have been brought to our notice, none has higher claims for simplicity and facility of application than one casually mentioned a day or two since. It was, simply to take a woollen rag, of sufficient size, and wind it around the collar of the tree, not too tight, of course, when setting out. The rag should be of sufficient size to extend quite up to the surface, and the lower it extends over the roots the better. If, in a course of years, it wastes away, as it naturally must, a new one is easily replaced by removing the earth. We have been credibly informed that, when at any time the earth is displaced, and the rag removed, the bark exhibits a soundness and freshness nowhere to be found but in vigorous and healthful trees.

Since we are upon the subject of peach trees, we may as well suggest a hint upon our favorite and successful process of shortening in. It is well known that the tree is a native of warm climates. Consequently, it pushes its growth to the full extent of our short seasons, leaving the later growth wholly immature and unable to withstand the mildest severity of winter. Of course, the extremity of the branches is almost uniformly winter-killed. We only attest to the experience of others, when we say that we have found a fully remunerating benefit in shortening in the branches, a process that may be safely performed at any time previous to the commencement of the flow of sap in spring. We thin and shorten in every twig, until we are sure it is reduced so much that none but healthy wood remains. In this way the sap goes to work in healthful and vigorous vessels, and no impediment remains to its free circulation and rapid appropriation to the nourishment of new branches and the fruit.

Yours, truly,

Elmwood, Feb. 16, 1854. WILLIAM BACON.

FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

THE FARM-HOUSE.—No. II.

THE reader will perceive that I use the term "Farm-house" in a very comprehensive sense, as embracing most of the movables and fixtures, the internal and external conditions of the "farmer's home."

STOCK should not be permitted to roam at large during the winter season. At the far South, cattle, sheep and hogs, are expected to get their living by grazing, even in the dead of winter. Not so in the Middle, Western, and Northern States, and the Canadas. From three to six months they must have most of their living from the barn or the crib.

A good farmer will provide a comfortable shelter for his stock. He will be urged to this by feelings of humanity, as well as by a regard to economy. Exposed to the storms and the rude blasts of winter, animals require much more food to sustain life, and cannot be kept in good condition.

I am led to this suggestion by seeing in this region, (York County, Maine,) the stock of many a farmer, during this inclement season, permitted to roam at large over the whole farm. Their paths may be seen leading to a neighboring brook or spring, to the dwelling-house, and to every place where shelter or food may be obtained.

Now, who would apply the epithet "thrifty" to the keeper of such an establishment?

The secret of thrift in farming consists in husbanding one's resources, in turning to account *all* the products of the farm. Manure is the farmer's stock in trade. Without it he can do nothing, especially on partially exhausted soil. And I am far from believing that the best use the Western farmer can make of manure, is to dump it into the nearest stream or quagmire. Admit that the virgin-soil does produce in abundance without the application of manures, it by no means follows that it will *continue* to do so. The growth of vegetables is an exhausting process, and the cultivator should adopt as a rule to return to the soil as much as he takes from it.

But to return from this stroll. Farm-stock should be *yarded*. A plot of ground, surrounded with a substantial fence, should be devoted exclusively to this purpose. It should have a southern exposure, and be protected on the north and west. Without this inclosure should be a trough, or cistern, in which should be kept constantly a supply of pure, fresh water. To keep stock in good condition, water is as essential as hay or grain. If compelled to wade a long distance in the snow for water, they will suffer from thirst before undertaking it.

If a portion of the yard is sheltered by a roof, the watering-trough should not be there. If so, the strong ones, having slaked their thirst, will remain, and prevent the weak and timid from approaching.

In this arrangement, one object to be gained is the comfort and consequent thrift of the stock. Another, and not less important, estimated in dollars and cents, is the making and saving of manure.

Most farmers know something of the value of animal-excrement as a manure, yet very few know how to save and make the most of it.

The surface should be covered with loam or muck. The liquid manures are no less valuable than the solid. By spreading some absorbent over the surface, these may be saved. This should, from time to time, be covered with straw, stalks, or refuse hay; thus making a comfortable bed for the stock, and

preparing a supply of valuable compost. A quantity of ashes may occasionally be spread over the yard. Indeed I know of no better mode of applying ashes and gypsum, than to spread them in the barn-yard, the pig-sty, and the horse-stable. They are thus made to pay a double debt; to fix and retain the ammoniacal and other gases, and to impart their own virtues to the soil.

In the town of Deerfield, Franklin County, Mass., celebrated for its productive farms and its fat cattle, a farmer was called upon by a citizen of a neighboring town, for the same purpose that Joseph's brethren went down into Egypt. In going to the corn-barn, they were obliged to pass through the farm-yard, which, from excess of manure, was hardly passable. Says the buyer, "Were I as well able as you, I would have a more decent barn-yard than this." "Had you *such* a yard," replied the seller, "you would be saved the necessity of coming to me to buy corn."

Apple-Trees.—Every farmer should have a liberal supply of this valuable fruit. In the Middle, and Northern States, and the Canadas, the apple is of more value than all other fruits that are produced. Others are valuable as luxuries, but the apple is prominent among the *necessaries* of life. Who that has land would be without apples? Yet there are multitudes of such among those who style themselves farmers. All admit the value of the fruit, and that it is easily produced, yet very few set about its production systematically. The old man will not plant trees because he *may* not live to pick the fruit. Ask him why he lays up money, or adds acre to acre; he will tell you 'tis for his children. Why not, for the same laudable purpose, plant an orchard, which is far less liable to be misused or squandered?

The young man contents himself to walk in the steps of his sire, thinking to expend his time and money upon that which promises a speedier return.

But I know of no investment that promises the farmer a richer or surer return. Let the land be sold in one year after the trees are planted, and he is sure of receiving double or quadruple the cost of the trees; for those who would never plant a tree, will readily pay the additional cost of a farm upon which they are growing. Good apples in variety and abundance are essential to the health and comfort of every family, and if more are raised than are needed, they will always find a ready sale.

In selecting and setting the trees, many things are to be observed.

1st. *Varieties.* If designed for the market, inquire what varieties are best adapted to the climate and soil, and what will command the most ready sale. But if for family use, consult the wants of the family. No farmer should be satisfied without having green apples three hundred and sixty-five days in the year. To accomplish this, he must make a proper selection of varieties. Commencing with the Sweet-bow and June-eating, he should have apples ripening all the time, till compelled by hard frosts to pick his Rhode-Island greenings and Roxbury russets.

2d. *Selection and treatment of trees.* Select healthy trees *from the nursery.* To purchase at auction, or of travelling tree-pedlers, stunted shrubs, because a few cents may be saved thereby, is being penny wise and pound foolish.

Never take a sprout or offshoot from an old tree, thinking to make a thrifty tree of it; you will but lose your labor, and expose your folly. You might almost as well attempt to make a *man* of one of those offshoots from humanity's stock, ycleped dandies.

When properly planted, they must be cared for—pruned, dug around, and manured. You may as well expect corn to grow without cultivation as an

apple-tree, that is a *civilized* apple-tree. The crab-apple will grow with the forest-tree, but cultivated fruit must be nurtured, or it will degenerate into the wildness of the primitive or medieval state, just as the refinements and virtues of civilized society, without due culture, gradually lapse into barbarism. Keep the earth loose about the roots while the tree is young; spread hay, straw, or stones, underneath; remove moss and other excrescences from the bark; once, or more, each season, wash thoroughly with weak lye or strong soap-suds; remove, not with a cross-cut-saw, or a meat-axe, but with a sharp pruning-knife, all suckers and all branches which interlace, or come in contact with others.

If but little ground, different varieties may be made to grow upon the same tree by budding or grafting. Furthermore, by taking the blossoms from a part of the tree when young, you may be sure of fruit every season. I have a full-grown Baldwin tree, the halves of which bear regularly alternate years.

The best manure for apple-trees is a compost of muck, lime, wood-ashes, and decayed leaves.

Let these simple suggestions be noted and put in practice, and kept in practice, and there will be no lack of good apples. R. B. H.

SUMMER-FALLOWING GOT RID OF.—TREATMENT OF CORN.

A WRITER in the *Michigan Farmer* thus gives his account of his treatment of his land, for corn and potatoes:

The twenty-five-acre clover-lot that I had designed to summer-fallow, I broke up for corn and potatoes, and planted twenty-two acres of it with corn, and three with potatoes; rolled the ground well; marked it one way by dragging it with an ox-chain; and dropped the corn by stakes the other way. I planted four feet each way, in rows straight as a line, cultivated twice, then ploughed each way; followed with the hoe, and killed all the weeds and grass, which was of course but a light job. In one week, the corn so shaded the ground, that when it was fit to cut, it was as clean as summer-fallows generally are from weeds and grass. The tending of the corn, I think, was about the same labor as fitting for wheat the old way. I had a cultivator made purposely for putting in my wheat, in the following mode: I took a drag-tooth iron, and welded a piece of spring-steel to one end, in the shape of a shovel-plough, three inches square; let the teeth project two or three inches further to land than an ordinary cultivator, and thus the corn-roots were prevented from choking it out. I then went through the field, cut four rows and left four, and laid them in gavels close to the standing corn. I then cultivated, then sowed, and cultivated again, and then dragged the ground well. After that, I set up the gavels, and cut the remainder, and set it on the sowed ground, and then put into wheat the remainder of the ground in the same way. The corn-stalks, in fodder for my stock, paid for harvesting the corn. I had eighteen hundred bushels of ears of corn, and five hundred bushels of potatoes, and my prospects are as good as usual at this time for a good crop of wheat. The ground is sowed to clover, and looks fine. There was but little more labor expended, and no more labor lost for pasturing the land, than to have had but one crop.

MR. GLIDDEN'S SHEEP MANAGEMENT.

GEN. GLIDDEN, one of the most experienced and successful in this department, thus writes in a late number of the *Journal of Agriculture.* He says:

I made my selection of sheep twenty-two years ago, from the best flocks in this vicinity, for fine wool. I selected a farm for that purpose, and assigned for my sheep-pasture a swell of land that bears sweet feed, and affords them a chance to shelter themselves with the woods from the storms. I secured to them a shade upon the high lands, by sparing trees for that purpose, when I cleared the land; but if I had none, I should build them a shelter, until I could grow one. I have been careful not to *breed in*, to get the proper shape for bucks, and the right grade of wool. I turn the bucks with the ewes in the middle of December. I let them have lambs at three years old, and wean the lambs about the middle of September, giving them a cattle pasture, or a field, always allowing them a better chance of feed at the time of weaning, and putting a few old ones with them to prevent them from getting wild.

MODE OF WINTERING.

I take the old sheep that have raised lambs, and look them over carefully, to see that the age is right, and that the shape and grade of wool is what I want; then put them in a yard by themselves, where they can be sheltered from the storms; not to exceed 100 in a flock. I feed them three times a day on good hay, when they first come to the barn; after two or three weeks, I give this flock coarse fodder once a day until the weather grows warm in March; then I give them good hay again until they leave the barn.

I take the wethers for another flock; if they are to be stall-fed, or to be turned soon after shearing, put them in another yard, where I can have the means of giving them grain. I take my yearling sheep to another yard, for they are the hardest flock to winter, owing to the state of their teeth. I take the lambs for another flock; give them early-cut hay through the winter, which causes them to grow through the winter.

In all cases, I feed in racks, and shut up the sheep in bad storms of rain, as well as snow. If I over-feed the two last-named flocks, I turn the old sheep in to clean the racks; but in all cases where the hay is good, let them eat clean. I rake out the sheep-pens once a day, and give to the colts or cattle.

Having got my sheep selected, I then watch over them, and see that they have water to go to at all times when the weather is favorable, and that they all look full and plump. If any of the old sheep fail to do well, put them in with the lambs. If this apartment gets too full, throw back, or give better keeping to those flocks that fail.

When the snow leaves the ground, I turn into my mowing fields, appropriating to each flock a separate field. I then feed twice a day until they leave for good. My sheep run against a common stone wall, and I believe all sheep would if they were properly brought up and properly cared for. By this I would say, that if I should put 300 sheep into a pasture of 100 acres for the summer, I think they would be likely to leave it, even if the wall was poled.

SUMMER TREATMENT.

I wash and shear from the first of June to the first of July, as I find the season. I do not wash at this season, because I have done planting, or got

the highway taxes worked out; but for the reason that the weather then is right for them to part with their fleeces.

The sheep being sheared, I sort them again, to suit the size of the pasture; the wethers to take the best feed, if I intend to turn them early; salt once a week. If the sheep have ticks, wash the lambs in tobacco-juice, or salt brine; or rub the wool full of snuff.

MODE OF REDUCING A FLOCK.

I sell all of the fat ones, (especially the old ones that have lost their lambs,) also my oldest ewes, the smallest yearlings and small lambs to go into small flocks; and whenever they have gone into good hands, they would average in appearance with the flock taken from the next year. I have known a sheep kept in a small flock fourteen years.

I sold ten of the oldest sheep I had in my flock last year, to Harry Neal, Esq., for $6.67. He told me, the other day, he had sold them and their wool and lambs for $45. If others that I could name, had taken them, they would have told me that they all died with the worm in the head, (of course.)

I am frequently told of flocks running out, and that pastures have had sheep in so long, that sheep do not do well. Let me say to you, that I have a pasture that has had sheep kept in it most of the time for 75 *years*, and others that have been pastured with sheep 40 *years*, and I do not wish to change my pastures nor my flock of sheep, which I have not changed for 22 years. I do not believe in running out flocks, or pastures, or mowing-fields. by proper treatment.

I have kept on an average, for 22 years, 300 sheep, and never have had any disease amongst them; nor have I lost on an average, (the first year excepted,) one per cent. in the winter or spring.

FOR THE PLOUGH THE LOOM, AND THE ANVIL.

SHEEP-BREEDING. BY P. A. BROWNE.

A WRITER in the January number of the above-mentioned valuable periodical, has expressed a very decided opinion against *sheep that are horned.* He even proceeds so far as to say, in regard to *all animals*, (by which I presume he means *domestic* animals,) that "*horns are good for nothing but to wound and destroy.*" We confess that we have no faith in these general denunciations of the law of nature. God has constructed all animals in the most perfect accordance with the places they are designed to fill and the parts they are to play in the great drama of creation.

When the sloth was first discovered, he was misrepresented by a writer on natural history as a very ungainly monster—a blemish in the universe! but subsequent examinations, more carefully conducted, convinced mankind that the sloth is as perfect, of its kind, as the proudest animal that struts this earth.

If horns had been "good for nothing but to wound and destroy," they would not have been planted upon the heads of so large a portion of ruminants. Ask the manufacturer of handles for cutting-instruments, the comb-maker, the manufacturer of lanterns, the umbrella-maker, the manufacturer

of bell-pulls and drawer-knobs, the makers of prussic acid and Prussian blue, if *horns are good for nothing.*

Five reasons are given why horns are thus denounced, one of which we will now examine. It is asserted that "the substance which goes to make horns, is the same that enters into the composition of wool."

But "hollow-horns," (to which class belong those of the ox and the sheep,) are composed of two distinct materials, one of which, namely, phosphate of lime for the construction of the plates and fibres of the osseous portion or *inner* surface, and phosphate of lime does not enter into the composition of wool. And as to the outer surface, Roget (who upon such a subject as this is of the highest authority) says that it is a "mere excretion, which appears to be destitute of vessels, and which is consequently removed from the influence of the living powers."

We would likewise ask permission to call to your notice, that Russell *altered stags*, and he informs us that in some of them their antlers grew irregularly, and in others not at all. Bichat also says that a cock with his comb cut languishes, and a lion deprived of his mane loses a part of his courage, and probably a part of his vitality; all of which shows that there exists some mysterious connection between horns and such other appendages indicative of the male sex and its virility, and they ought to admonish us to "let (nature's) well alone," lest while we are endeavoring to improve upon this great mistress, we may be the cause of a lasting degeneration, having a most deleterious effect upon our stock.

Philadelphia.

CONSTRUCTION OF PIG-PENS.

We have heard of jewels in toads, while pearls are grown in oysters, and diamonds even are dug out of the earth.

Science, in some sense, covers all the territory yet known, and though not a common topic, as it should be, nor an inviting one, in all respects, we know not why this wise dame should not preside over the pig-pen as much as in other departments of farm management. We find a capital article on this subject in "The Progressive Farmer," which we lately noticed among our new books, and here copy it for our readers:

Mythology relates that one King Augeas had stalled 30,000 cattle for many years without cleaning after them. Hercules, it is said, was appointed to the task of cleansing these "Augean stables." The wily hero, as the story has come down to us, turned a river through them, and made clean work shortly. Whether the stalls travelled with the current we are not informed, but the manure went down the stream. Agriculturally considered, this was just about as wise as the management of some modern pig-pens.

I have often seen these important structures built with their roofs facing the south; the manure thrown out the south side; the eaves washing it in rainy days and the sun scorching it in fair weather; till, between washing, fermentation, and *burning*, there was little left. Others are so located that rills, if not rivers, run into them, not enough perhaps to cleanse them, after the model of the aforesaid "Herculean labor," but enough to sweep away nearly all their soluble salts. Owing to bad management, pig manure has come into bad reputation, but it is good, nevertheless, if rightly managed.

The pig-pen should be so constructed that the neves will be turned away

from the manure. The ground should be in such shape that no water, except what falls directly from the heavens, can find ingress, and none find egress but by evaporation. There should be an outside inclosure, where the animals can be as filthy as their swinish nature prompts; and an inside apartment where they can be as dry and warm as they please. If the first is not allowed them, they *may* not pay for their keeping in summer; if the last is not furnished, they certainly *will* not pay for their winter's food. *No animal can grow or fatten when suffering with the cold. It takes all his food to keep him from freezing.*

Let the outside inclosure be of considerable size, giving at least one square rod to the first tenant, and half as much more to each additional occupant. It is agreed on all hands, that American farmers have land enough. They can afford to give their pigs a sufficient range. The ground should be dishing, the same as in the barn-yard, and for the same reason, that nothing may run over in wet weather; and the material for the pigs to work over should be so abundant as never to evaporate to dryness in the dryest times.

Now, what is to be done that a lot of swine may produce, partly in the "natural way," and more by the manufacture of raw materials, ten loads each, per year, of excellent compost? If the number to be kept be ten, they would give a hundred loads. Suppose this to be the average number for the year, and let us see how the thing is to be done. In the first place, put around the outside of the pen, or outer yard, seventy-five loads of peat, swamp-muck, road-scrapings, top-soil, or whatever you can best procure, and then proceed as follows:

After the pen has been cleared of its last year's manure, throw in plentifully of this to begin with. Let it be scattered over the whole inclosure several inches deep. As it becomes thoroughly moistened with the rains and the droppings of the animals, throw in more, and so on through the summer and fall; throwing in, more or less, nearly as often as you feed the swine, taking care that it always be moist, but seldom or never thoroughly drenched. The quantity will soon become so large that it will hold the water of any ordinary rain, and withstand the evaporation of any drought if not very severe. If it is inclined to dry up, it is well to throw over it a few quarts of plaster. Plaster is very little soluble. Five hundred pounds of water dissolves but one pound of plaster. It cannot, therefore, be lost by putting it on moist manure, as some other salts might be. Indeed, it should be sprinkled over all manures frequently, but especially if they incline, either in consequence of dry weather or too rapid fermentation, to become dry.

Some have supposed that the outer pen for swine should be under cover. I think not. Remember that rain does not hurt manure, unless it run through it, carrying off its soluble salts. Every drop of rain brings down ammonia and other fertilizing matter from the air. The falling rain washes the air of its impurities. After the shower we say, "How sweet the air is." It is sweet because it is *clean*. Hence, in the neighborhood of cities and large villages, and every where to a limited extent, rain falls, impregnated with enriching materials. If it falls on a quantity of manure which has sufficient depth to hold it till evaporation takes place, it leaves these materials in the manure. Hence, the more rain the better, provided it go off by evaporation and not by filtration. The evaporation should not go on to perfect dryness; for then the ammonia, the carbonic acid, and other gases, are inclined to escape, and the manure is approaching that state in which it may said to be "burnt."

Always moist but never leached should be the farmer's rule for his manure. The more manure he makes, both in his cow-yard and his pig-pen, the more

easily can he keep within this rule. A few inches of manure spread over the yard or pen, will be as dry as powder one day and thoroughly leached the next; while a depth of ten, fifteen, or twenty inches will stand a long drought, or hold the water of a long rain. Consequently, it generally happens to the farmer who makes manure on a liberal scale, that his manure is as much better in quality as it is more in quantity.

I have said *always moist but never leached.* Closely allied to this is another rule. Who has not noticed that a pig-pen, in which the occupants are in danger of drowning, and one in which the manure is so dry as to be suffering a rapid fermentation, always smell horribly? To say nothing of the keeper and his family, the pigs are less healthy in such an atmosphere, and they will thrive less on the same keeping. To keep a stinking pig-pen is to throw away part of the feed and part of the manure at the same time. By giving corn to swine, shut up in a polluted atmosphere, the farmer loses a portion of his last year's crop; and, by letting his pig-pen "waste its sweetness on the desert air," he fails of a portion of his next year's. A valuable portion, and not a small portion of what should produce crops next summer, is going beyond his reach.

Not the least offensive odor should escape from the pig-pen. This is the rule before alluded to; and it is as practical as it is important. To practice it, will save something on last year's crop; something for the next, something *certainly* in comfort, and it *may be*, something in doctor's bills. In order to practise it successfully, one needs only to throw into the pig-pen, and all like places, including the vault of the privy, plenty of peat, black mud, or top-soil even, and to see that it is always moist but not drenched. A little plaster would be a help, but it is not necessary. If it is not at hand, the other part of the prescription will suffice. Plaster, however, should always be on hand. This, and cured peat or muck, should never be wanting about the farmer's premises.

The same rule should be observed with regard to every part of the premises. If others suffer bad odors about their farms, they may lose their comfort and their health; if the farmer suffers them, he will lose his *wealth* also; for these are the very quintessence of his manure; and it is a well-known fact that growing plants absorb with avidity what is most noxious to animal life.—*Progressive Farmer, (by Nash.)*

FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

MESSRS. EDITORS:

DEAR SIR: Please inform me through the columns of *The Plough, the Loom, and the Anvil*, which is the best churn in use. I have tried several "bests," but have found none worth a straw. Now, whose make would you recommend? I am very respectfully yours, W. C. W.

Norwalk, Conn., Jan. 19, 1854.

EDITORS' REPLY.—We know of nothing better than the CYLINDER CHURN, for common family use; it is convenient in its management, portable, and is easily cleaned. There are five sizes, holding from two to twenty gallons. Cost is from $2 to $4.

INDUSTRIAL RESOURCES OF VIRGINIA.

THE lead mines in Wythe county have never been worked up to their capacity, but merely to the extent of supplying a limited home demand; the weight of the article, and the distance to water communication, utterly excluding it from the great markets of the world. The lead region, which commences at Aspinwall, extends through a considerable portion of Smyth county, and is rich in all the most valuable ores of this metal. Besides the sulphurate of lead, (galena,) which is the ore chiefly depended on, oxide of lead, (minium,) and the carbonate, (white lead ore,) exist in large quantities, may be easily wrought, and are exceedingly rich; the latter yielding about 75 per cent. Minium is the red lead of commerce; and the carbonate, the white, so extensively used as a paint. There is also in connection with these ores, a considerable per cent. of arsenic, which sublimes in the process of smelting, and collects in large quantities around the mouths of the furnaces, in the form of arsenious acid, (white arsenic.) This substance, of which no account is made at these mines, possesses considerable value in the arts, and could easily be purified and fitted for market.

Here, too, in inexhaustible profusion, we have the noblest of the metals—iron. Whatever may be said in justification of the metallurgic idolatry which is drawing so many thousands of our people to the El Dorado of the west, here, in the bowels of our mountains, in exuberant plenty, is a metal of far more intrinsic value than gold, and needing only the union of labor and capital to make it as prolific a source of wealth to Virginia, as the celebrated mines of Elaba to France, or Dalecarlia to Sweden. The Iron Mountain, (to say nothing of the numerous other localities,) which extends through the counties of Wythe, Smyth, and Washington, in Virginia, and Johnson, and Carter, in Tennessee, contains ore enough to supply the nation for a century. This ore, too, is of the richest quality, and precisely the same (the magnetic oxide) as that from which the best iron of Norway and Sweden is obtained. Other ores also here exist in abundance, as the brown hematite, the argillaceous carbonate, specular, &c. In this mineral alone, is wealth sufficient to enrich a nation, and the brow of enterprise may cheer up at the prospect of gaining employment for centuries to come.

Contiguous to the salt deposit, and at numerous other points in the valley, between Clinch and Walker's Mountain, we have gypsum in the greatest abundance, and of the finest quality. The value of this article to the agriculture of the country is too well known to require description, and nothing is needed but facilities for cheap transportation in order to multiply its consumption a hundred or a thousand fold. In the present condition of our roads, perfectly execrable through nearly half the year, so great is the cost of transportation that the price of ground plaster, which at present is $5 per ton at "the bank," is increased 100 per cent. at the distance of eight miles, and only a very partial supply can be procured at that. We perceive, however, by the tariff of rates, established by the Virginia and Tennessee Railroad Company, that the price of transportation will be but three dollars per ton for the distance of 200 miles. These rates, when the lines of roads are completed in both directions, will give the command of the market through a scope of country of more than 400 miles in length, and furnish the article cheaper by two dollars per ton at the point of greatest distance, than it can now be obtained within *eight miles of the works.* This vast region of coun-

try, it should be remembered, also, is wholly devoted to agriculture, and the soil is of such a nature as to receive the most healthy stimulus from the use of this fertilizer. The effects on the industry and production of the country, as a consequence of our improvements, to result from this branch of business alone, are absolutely incalculable.

Additional to the above-named industrial resources which pertain to the mineralogy of the country, we might mention also the vast deposits of metamorphic limestone which are found between the Clinch and Holston rivers. These deposits furnish the beautiful variegated red marble, now well known as the "Rogersville Marble," in consequence of works for its manufacture having been established only at that place. The formation, however, extends through Scott county, in Virginia, and Hawkins and Grainger, in Tennessee, and the quantity is inexhaustible. Quarries might be opened in each of these counties, and its manufacture for building and ornamental purposes carried on to an extent limited only by the uses to which it may be put. This marble receives a fine polish, and is mottled and variegated by numerous shells, madrepores, and other fossils, which give it a beautiful effect. We consider it scarcely inferior to the celebrated "gold-streaked" marble from Egypt. As a new variety, it needs only a market in order to be much sought after for furniture and ornamental finishings.

Besides this, throughout East Tennessee, we have reason to believe that numerous other valuable varieties may be found. We have in our possession a beautiful specimen of white granular marble from the Unaka or Smoky Mountain, between Tennessee and North Carolina, that, for purposes of statuary, cannot be surpassed; equal, no doubt, to the best Parian or Carara. The day is not distant, we hope, when our Greenoughs and Powers will not need to seek their material on the classic shores of the old world, but when their beautiful creations shall arise from native quarries, when our mountain glens and nooks shall become artists' studios, and the clink of the chisel and the hum of busy industry give new life to these sequestered solitudes; and when the railroads, which, from different points, are now pressing towards these rich but hitherto isolated regions, shall bear away to distant cities this mineral wealth, to be reared into sumptuous edifices and stately temples.—*Southern Repertory.*

PROGRESS OF MECHANICS.

We purpose to describe certain mechanic arts, in which the lapse of centuries has brought no progress, but which remain, to this day, not only not improved, but perhaps deteriorated.

We have occupied considerable space in a recent number, (for January,) with an account of PORCELAIN WARE. We have made progress of a certain kind in this department of art, the same kind which is made in so many of the arts, and a kind too which is of immense practical value. We mean an economical improvement, an adaptation of various kinds of clay to this kind of ware, so as to bring its common use within reach of the mass of the people, just as a certain amount of education is now diffused among all the people. Science in its nature is diffusive. Thus, the knowledge of pottery, in its finest forms, which was once exceedingly limited, while the ware cost far too much to be enjoyed by any but a favored few, is now essentially common property, and the products of the art are in the humbler abodes of poverty and toil.

No wares compare in elegance of finish and brilliancy of coloring to the ancient Sevres. But we need not occupy space on this subject. We refer to it, that our list may be more complete.

Glass-ware.—There are various departments, each distinct from the rest, all of which come under this general head. We will first refer to

Staining of Glass.—Perhaps nothing can exceed the beauty of many modern works in this department of art. But in our own country such specimens are few, and of the smaller forms. Abroad, it is otherwise, and yet so far as our information extends, but very few of the larger forms of remarkable beauty are the work of recent times. In the middle ages, this art was in its perfection. Many of the churches of the old world display scenes in their painted windows, that modern art cannot surpass.

The imitations of precious stones, by the ancients, has never been surpassed, if it can be equalled. A piece of glass was found at Rome, less than an inch in length, and a third of an inch in breadth, exhibiting on a dark and variegated ground, the figure of a duck, beautifully executed, in bright and varied colors. The plumage was executed with wonderful truth and fidelity.

The most wonderful feature of this work of art consisted, however, in the fact that the two opposite sides of the glass presented precisely the same figure, the colors extending quite through the substance of the glass. A fracture having occurred, the mode by which the work was executed was revealed. This was by passing straight threads of glass, of different colors, through a hole in the tablet, and so arranging them, that a transverse section presented the figure of a bird. These filaments were doubtless united, afterwards, by fusion, as no microscope could detect the point of their junction. Other specimens exhibited flowers, architectural ornaments, &c., in a blue ground, of equally surprising execution.

Glass and Marble Mosaics.—This style of decoration was known both to the Greeks and Romans, and as much skill was exhibited in these manufactures as in modern times.

Malleable Glass.—It was known long ago how to render glass malleable as iron, but the secret was confined to a few only, while the life of him who should divulge it unwisely, would be forfeited. In the time of Tiberius, an artist, banished for some political offense, it is said, discovered this art, and hoped on that account to secure the favor of the emperor. But the glass-makers, supposing "their craft was in danger," employed all their influence against him, and secured his death, and his secret died with him.

In the time of Louis XIII., an artist who made this discovery was rewarded, for a similar reason with perpetual imprisonment.

Glass Blowing.—Egyptian paintings, 3500 years old, represent glass-blowers at work, with blow-pipes similar to those now in use, and in the tombs of Thebes, implements of glass have been found similar to those of the present day. So the arts of cutting, grinding, and polishing glass were understood in those early times. The famous Portland vase, now in England, was found in a sarcophagus at Rome, some two hundred years ago, and was long believed to be of stone. It is now found to be of glass. Its color is blue, beautifully polished, and ornamented with small figures of opaque white, in bas-relief, beautiful in design, and of exquisite finish.

Another very valuable specimen of this work was dug from the ruins of Pompeii, in 1839, and is now in the museum at Naples. It is about twelve inches high, and eight inches in width, and of a style similar to that of the Portland vase. It is covered with figures in bas-relief, raised from a delicate

white opaque glass, overlaying a transparent dark-blue ground, the figures being executed in the style of cameo-engraving. To produce this effect, the artist must have been familiar with the operation described last month under the head of Bohemian ware—the only mode known for exhibiting different colors, in such connection. This specimen is presumed by some to be the work of Roman, and by others of Greek artists.

The art of cutting and polishing glass has been long known; and in the ancient ruins, specimens of such work have been found that compare well with the products of modern skill.

Refining Metals.—The few specimens of ancient coins that have come down to us seem to prove that the ancients understood the art of refining the precious metals. These coins are supposed to have been made by the hammer and the punch. Among the most remarkable *antiques* formed of the precious metals, are two golden horns, found in Denmark, and supposed to be drinking vessels. They are each about three feet in length, four inches diameter at the mouth, and seven pounds in weight, and are very richly ornamented. The gold of which they are composed, is of such fineness, that the best refiners in Copenhagen, who were instructed to repair a blemish in one of them, were unable to produce metal of equal purity.

The art of refining and tempering steel was practised in the East, at a very early period. According to Pliny, the oriental steel was the best then known, and the East Indian steel, called Wootz, is believed to be superior to any of European manufacture. A sword of the steel of Borneo has been known to sever a European sword-blade, without producing a flaw.

Working Metals.—The Chinese have long possessed this art in great perfection. An old Chinese work on vases is yet extant, which contains many hundred engravings of ancient vases, of gold and other metals, with their inscriptions, which refer their date to a period fifteen hundred years before the Christian era.

Sculpture.—This art was not unknown, even in the rudest ages. The various idolatries which have prevailed in all ages of the world must have turned attention to this department of art, and as civilization and refinement modified and even controlled the public manners and tastes, progress in it was a matter of course. Accordingly, we find not a few of the ancient specimens of sculpture still appealed to as models of perfection. Perhaps our own artists excel the ancients in one point, and that indeed the highest of all, in the development of intellectual expression, and of passionate emotion, though they do not in symmetry or beauty of feature, or of form.

Not only were these *finer arts* familiar to the ancients, but some belonging to the more necessary and economic departments were practised at a very ancient period.

Spinning and Weaving.—The origin of these arts is entirely unknown. The Egyptians, even in the time of Moses, we all know, understood both these branches of labor. The pictures upon Egyptian tombs represent all the various processes connected with them. Their mummies are rolled in linen, some of which is of remarkable fineness. Some of the ancient specimens of Greek sculpture are clad in flowing drapery.

Masonry.—With the sight of this word, the huge pyramids at once stand up in their immense proportions. But perhaps it may be said that it is as easy to erect a large as a small pile, a larger quantity of material only being necessary. But these stones are found to have been of immense size, weighing, in some ancient structures, hundreds of tons. No ordinary architect of our day is competent to the skillful management of such masses. In the

ruins at Balbec, some of the stones employed are sixty feet in length, nineteen in breadth, and ten in thickness. At how many quarries on this continent can contracts now be made for the delivery of such masses? It must be remembered also that Egyptian granite was very hard. The oldest structures known, were erected without lime or other cementing substance. The use of such materials is of comparatively later origin.

But when quarried, how could these immense masses be conveyed to the spot where they were required? The obelisks, at Heliopolis, consisting of a single block, weighing more than two hundred tons, were conveyed 800 miles. A colossal statue at Thebes, weighing 900 tons, was conveyed 138 miles.

The gothic structures of the middle ages exhibit wonderful skill of construction. The tower of a cathedral, at Strasburg, is nearly 500 feet high. A stone cistern, for collecting the rain which drops from the spire, is arranged 250 feet from the ground. So strong is the masonry of this structure, that in the great earthquake of 1728, though the tower was rocked so as to spill the water from this reservoir, when standing three feet below its margin, still no stone was misplaced in the tower, nor was a crack produced in its masonry.

A stone arched-bridge, built by the Romans, at Brionde, in France, with a span of 195 feet, is still standing. The ancient Roman aqueducts are to this day astonishing feats of skill in this department of art.

The obelisks conveyed from Syene to Thebes are from 70 to 90 feet in length, and that at Karnac weighed 297 tons. A statue at the Ramessium weighs upwards of 887 tons, and must have been brought 138 miles.

Herodotus mentions a temple at Bato, in the Delta, hewn from one solid rock, which was brought from the Elphantine. Its weight was reckoned to be 5000 tons. An Egyptian obelisk, the largest in the world, stands near the church of St. John Lateran, at Rome, the shaft of which is 105 feet in height. It is adorned with the finest sculptures. Palmyra was a city of palaces. Babylon was not only "the glory of the Chaldeans," but is the admiration of the world. The artists of centuries gone by left a record of their skill, which is not even dimmed by age. What is not thus eloquently uttered in the chiselled lines of their solid rocks, their painters have given us. They have illustrated the luxuries and pleasures and amusements as well as skill in the arts, to an extent which should teach us not to boast too much of our superiority, in all respects, over the olden times.

Working in Wood, Cabinet-ware, &c.—We find in Egyptian tombs, as well as in their pictures, that workers in wood were familiar with the products of modern art in this department. From these discoveries, we find that stuffed chairs were known in those early times, and that fashion and taste were gratified by the finish of the claw-feet, and other devices of the present time. They show skill in the practice of veneering, dowelling, dovetailing, glueing, polishing, staining, painting, &c.

Architecture.—We need here but to suggest a few specimens of ancient skill and taste in this department. The most ancient structures in Europe are among the most perfect. Westminster Hall, with its arched roof, still perfect, was erected in 1380. The most marvellous, in some respects, however, is the Riding House, at Moscow, which covers an extent of 10 acres, the roof of which extends 2000 feet in length, and 235 feet in width, without cross-wall or pillars.

The most remarkable dome in existence is that of the Pantheon, at Rome. It is 167 feet in diameter. Next, is that of St. Peters, still larger than that of the Pantheon. It is constructed of double walls, with a flight of stairs

between them. The dome of the cathedral of Santa Maria del Fiore, at Florence, erected in the early part of the fifteenth century, is perhaps not inferior to either in its design.

The principle of the arch was as well understood, and as variously applied centuries ago, as at the present time.

In the construction of powerful machinery, the ancients must have been well skilled. We have already referred to the moving of immense burdens, and of elevating huge masses to great heights. We would also refer to the warlike machines of Archimedes, who constructed huge engines for upsetting the war-vessels of the enemy, when they came to attack Syracuse, the city of his residence. The huge cross-bows, with which stones and other missiles were thrown against the boats of the enemy, and which sunk them, are quite worthy of mention in this connection.

IRON AND STEEL.—So well known are the claims of the ancients to perfection in the manufacture of wares and implements of this description, that a simple reference is sufficient for our purpose.

But when we have enumerated these, and a few kindred kinds of art, we have exhausted the list. We might, indeed, were it within the scope of our plan, have referred to the painting, the poetry, and the eloquence of olden times, but such topics scarcely come within the range of our discussions.

We purpose to follow this short sketch as our convenience will permit, with illustrations of an opposite character, showing the WONDERFUL PROGRESS that has been made in other departments of mechanic art, with sketches of the more prominent artists, both of the past and the present; and if means could be devised for giving their portraits to our readers, we should most gladly avail ourselves of the opportunity.

THE ACTION OF URINE.

DANA thus illustrates the value of human urine as manure:

"Each pint of *human urine* will produce a *pound of wheat. Each pound of ammonia is equal to a bushel of grain.* Whatever may be the food, it is evident that rivers of riches run away from farms, from want of attention to saving that which ordinarily is allowed to be wasted.

"Each man evacuates, annually, enough salts to manure an acre of land. Some form of geine only is to be added to keep the land in heart, if the farmer has but the heart to collect and use that which many allow, like the flower unseen, to waste its sweetness on the desert air."

By *geine* here is meant *mould*, and we infer, that it is immaterial whether the substance used be woods-mould, marsh-mud, river-mud, peat-mould, from head-lands, or any other kindred substance. According to the above statement, 125 gallons of human urine, mixed with as much of either of the substances named, to dry the urine, and prepare it for broadcast sowing, if applied to an acre, would produce 20 bushels of wheat, provided the season and other circumstances combined to facilitate productions. Looking at the constituent elements of urine, as compared with those of wheat, we most implicitly believe, that 200 gallons of human urine, mixed with 30 bushels of mould of either of the substances above enumerated, 5 bushels of ashes, and 1 bushel of plaster, would be sufficient, if broadcasted and ploughed in, the land being properly pulverized, to produce not only a very large crop of wheat, but carry it through a four years rotation of crops, with profit to the far

mer; and that the land might be seeded to clover with the certain prospect of luxuriant crops of it, provided the land naturally had lime in it, or that mineral, in the event of their being none, were applied at the rate of 10, 12, or 20 bushels per acre. The quantity of urine named would, upon decomposition, furnish upward of 44 lbs. of ammonia, a quantity abundantly sufficient, by its *direct* and *indirect* action upon the vegetable and other substances in the soil, to fertilize an acre of land.

COMPARATIVE PRODUCTIVE ECONOMY OF THE UNITED STATES.

BY CHARLES C. COFFIN, WEST BOSCAWEN, N. H.

NATIONAL prosperity is subject to three pursuits, commercial, mechanical, and agricultural; the latter is at the basis of all. Of agriculture we propose to speak; but as some States are extensively engaged in manufactures, and others in commerce, allowances should be made in the comparative results.

It is a natural supposition that a State possessing equal advantages with another State, should be equal in its like productions. Such is not the fact, as will be apparent from the annexed tables. Taking the article of butter, a product universal the world over, and which can be produced in any clime, we see the following results. The States being arranged in progressive order.

	Lbs. per Cow, per annum.
Florida,	5
Texas,	10
Georgia,	13
South Carolina,	15
North Carolina,	18
Alabama,	18
Arkansas,	19
Mississippi,	20
Tennessee,	33
Missouri,	34
Virginia,	34
Rhode-Island,	34
Kentucky,	39
Louisiana,	41
Illinois,	42
Maryland,	43
Indiana,	45
Iowa,	47
Delaware,	50
Wisconsin,	56
Massachusetts,	62
Ohio,	63
Maine,	69
Michigan,	70
New-Hampshire,	73
Connecticut,	75
Pennsylvania,	75
New-Jersey,	79
Vermont,	83
New-York,	85

In many of the States large quantities of milk are sold; but if the above table is examined, it will be seen that most of those States which produce the largest amount of butter, sell the most milk. Vermont is an exception. But the exception will be accounted for in the quantity of cheese produced.

The purely agricultural States of the West, with broad prairies, fertile fields, and favorable climate are behind the bleak and barren States of Vermont, New-Hampshire, and Maine. New-York stands highest on the list, yet she sells millions of gallons of milk per annum.

The reasons for such discrepancy must be beyond climate or soil. They are to be found in inferior stock, and improper management.

In the article of cheese* there is a wider difference.

	Lbs. per Cow
Louisiana,	.01
South Carolina,	.02
Maryland,	.04
Missouri,	.09
Alabama,	.13
Georgia,	.14
Delaware,	.16
Florida,	.24
Arkansas,	.32
Texas,	.40
North Carolina,	.43
Tennessee,	.70
Kentucky,	.89
Missouri,	.89
Virginia,	1.37
Indiana,	2.25
Illinois,	4.00
Iowa,	4.00
Tennessee,	4.72
Wisconsin,	6.00
Mississippi,	10
Rhode-Island,	11
Maine,	18
New-Jersey,	30
New-Hampshire,	31
Ohio,	36
New-York,	53
Massachusetts,	54
Vermont,	59
Connecticut,	62

The State of Vermont produces more pounds of cheese, than all the rest of the Union, with the exception of New-York, Ohio, Maine, Connecticut, Massachusetts, and New-Hampshire; and this from 146,128 cows.

It may reasonably be asked if there is aught in the geological formation, geographical position, or climate of Vermont, to account for the successful prosecution of such a branch of agriculture; which may not be equally suc-

* It is well known that cheese is not an article of food so universal in its use as butter; yet, from such data, it would seem that many of the States were dependent upon others for this article of food, which, with judicious arrangements, can be produced in all climates.

cessful in other States? We answer no. New-York and Ohio, New-Hampshire and Connecticut show the same capability.

But if we look at the number of cows per individual, surprise at the discrepancy will be still greater. We shall see that some of the States, which produce the least butter and cheese per cow, keep the greatest number of cows per individual.

	Cows per Individual.
Maine,	.22
New-Hampshire,	.29
Vermont,	.46
Massachusetts,	.13
Rhode-Island,	.13
Connecticut,	.23
New-York,	.30
New-Jersey,	.24
Tennessee,	.22
Delaware,	.21
Maryland,	.14
Virginia,	.22
North Carolina,	.25
South Carolina,	.28
Georgia,	.36
Alabama,	.29
Florida,	.83
Mississippi,	.35
Louisiana,	.20
Texas,	1.01
Kentucky,	.25
Tennessee,	.24
Arkansas,	.44
Missouri,	.33
Ohio,	.27
Indiana,	.28
Illinois,	.34
Mississippi,	.25
Iowa,	.24
Wisconsin,	.21

Vermont is a purely agricultural State. The dairy is a branch of business natural to the State. It is made profitable by industry and energy. Each individual is possessed of one forty-six hundredths of a cow, each cow producing 59 lbs. of cheese and 83 lbs. of butter.

In the State of Florida, each individual owns eighty-three hundredths of a cow. Each cow producing 24 lbs. of cheese and 5 lbs. of butter.

Now, for what purpose do the agriculturists of the South rear such stocks? Surely not for profit.

The total pounds of cheese produced in the United States, in 1850, was 105,535,219 or about 4½ lbs. to each individual. The export for the year was 10,361,189, leaving about 4 lbs. per individual for consumption. Now, if the consumption is equal in all the States, there are but seven States that produce their own cheese—Maine, New-Hampshire, Vermont, Massachusetts, Connecticut, New-York, and Ohio.

Pennsylvania, with a population of 2,311,786, produces but 2,505,034 lbs.

of cheese. If each individual consumes 4 lbs., there is a deficit of 5,742,110 lbs., which at 10 cts., amounts to more than half a million dollars. And this, with a soil and climate equally advantageous with New-York or Ohio. Indiana, with a population of 988,416, produces from 284,554 cows but 624,564 lbs. of cheese and 12,881,535 lbs. of butter.

This is a result where soil and climate are greatly in favor of the former States. Neither of the States sell milk, and it is reasonable to suppose that the proportionable consumption of milk, as an article of food, is as great in one as the other. Hence, the discrepancy must be sought for in the stock, or in the management of the dairy, or in both. There is no reason to suppose that Indiana may not be made to equal Vermont, but, on the contrary, excel it in dairy products.

The discrepancy which exists between the States of Vermont and Indiana is illustrative of that of the whole Union, not only in cheese, but in various other articles.

The amount of wool produced per sheep, shows results which must be attributed to stock and management.

In the table appended, there is evidently an error in the computation for Massachusetts; for it can hardly be supposed that that State should range so far ahead of all others, especially of Vermont, where wool-growing is a profession.

	Lbs. of wool per Sheep.
Maine,	3.02
New-Hampshire,	2.90
Vermont,	3.35
Massachusetts,	4.53
Rhode-Island,	2.9
Connecticut,	2.9
New-York,	2.9
New-Jersey,	2.9
Tennessee,	1.3
Delaware,	2.1
Maryland,	2.6
Virginia,	2.1
North Carolina,	1.6
South Carolina,	1.7
Georgia,	1.7
Florida,	0.99
Mississippi,	1.8
Louisiana,	0.9
Texas,	1.3
Kentucky,	2.0
Tennessee,	1.6
Alabama,	2.0
Missouri,	2.1
Ohio,	2.5
Indiana,	2.3
Illinois,	2.4
Michigan,	2.7
Iowa,	2.4
Wisconsin,	2.0

Vermont, with a climate of long winters, stands first on the list, probably

as to quantity per sheep, and quality. No State has given so much attention to wool-growing, and within the last ten years she has produced a stock not surpassed in the country.

If Vermont has done thus, why may not Ohio, Pennsylvania, Kentucky, and other States with climate to assist, surpass Vermont?

It has been computed that each individual requires seven pounds of wool per annum, therefore the country requires not far from 166,000,000 lbs. per annum. The pounds produced in 1850, were 52,789,174 from 21,721,814 sheep, or 2.44 lbs. per sheep. Showing a deficit of more than 100,000,000 lbs. Now, if the pounds per sheep were raised to that of Vermont, it would increase the amount to 72,000,000; and if the quality, which may now be rated at 0.40 per lb., were increased to that of Vermont, which may be called $0.50, it would give an increase of 15,000,000.

It is a well-known fact that it costs no more to keep a good animal than a poor one; here then would be actual gain of fifteen millions of dollars to the country per annum. This applies with equal force, to all the products of the country which are not in any great degree affected by climate.

The deficit of 100,000,000 lbs. of wool per annum, in value $40,000,000, is worthy of the consideration of the agriculturists of the country. But the discussion of the subject cannot be pursued. It has been theorized by economists, but it is a problem which will settle itself.

Yet to arrive at national wealth, it is absolutely necessary to understand the laws of production and distribution. It is only by comparative analysis that a State can understand its progress.

There is a legitimate business for every community. It is not a haphazard course which a community can pursue successfully for a long period. Prosperity is founded upon rational laws, laws of nature, or of circumstances. Some of the States must of necessity be manufacturing, others commercial, others agricultural, and others combining different employments.

It is impossible with the space at command, to do more than to glance at the industry of the country. But perhaps enough has been said to call attention to the comparative economy of the different States. No State can float serenely on the tide of time to a great and glorious destiny. The great moving powers are industry and energy; making use of the best means which nature or circumstances has given.—*Journal of the United States Agricultural Society.*

FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

FARMING IN VIRGINIA.

MESSRS. EDITORS: I herewith send you some thoughts on the subject of farming in Rockbridge and our valley counties, which may not be altogether uninteresting to your numerous readers.

Rockbridge county is situated in the Valley of Virginia, near the centre of the State. As you are no doubt aware, the valley, from near the Tennessee line to Harper's Ferry, boasts of as fine lands as are to be found in the State. Much of this land is in a high state of cultivation, producing heavy crops of corn, wheat, rye, oats, and buckwheat, with almost every culinary vegetable. There are also many fine grazing farms, on which are raised fine cattle, substantial, and some fine, horses, Cotswold, Southdown, Saxony, and Merino,

and other sheep, with fine hogs of the different breeds. Much of our stock is driven to the Richmond, Baltimore, Philadelphia, and New-York markets.

There has also been a good deal of attention paid to fruit culture in late years, and we will soon have abundant supplies of apples, pears, peaches, nectarines, apricots, plums, prunes, damsons, strawberries, gooseberries, &c Apples grow well every where, but some of the other varieties do not succeed so well on stiff clay soils. The county of Rockbridge and other counties lying further south, produce all the above varieties in perfection, when properly cultivated.

So far as my knowledge extends, there are not many dairy-farms in the valley. There are, however, some, which I learn pay well. Butter of fine quality, and in considerable quantities, is made, which finds a ready market in Richmond, Va.

The Central Railroad, now almost completed from Richmond to Staunton, 120 miles, will, in a month, give us ready access to market. This road is pushing west to the Ohio River, and it is said will be completed in the next three or four years. It will pass by Covington, where it will meet the James River Canal. These two improvements will open up unbounded stores of mineral wealth in our western mountains, and when once completed, will throw an immense trade into Richmond, in connection with the Tennessee and South Side Railroads; a new era will dawn on the cities of Richmond, Norfolk, and Petersburg.

There is now in progress a canal from the James River to Lexington, our county seat, a distance of about 20 miles on the water line. About one half of this canal will be in operation this spring, and it will probably be completed in the next year, 1855; and it is thought it will pay well. The North River, on the line of this canal, and above, affords very fine water-power. Indeed, our county boasts of almost unlimited water-power, being watered on the south by the James River, Buffalo, Clollier's Creek; the North River, near the centre of the county; Hay's, Walker's, and Moffett's Creeks, and the South River running along the base of the Blue Ridge, with other smaller streams, offer sites to small capitalists, for every branch of mechanical labor.

Our lands vary in quality from the finest bottoms, worth $100 per acre, to mountain lands at 10 cents. There are no arable lands worth having that can be purchased for less than $5. From this price up: $10, $15, $20, $30, and $50, for our best up-lands, well adapted to corn, wheat, and rye. As you approach the James River, some tobacco is cultivated, but it is not one of our staples. There are many good flouring mills in the county, and much of the wheat raised here is of very superior quality, weighing often 66 lbs. per bushel, rarely falling below 60 lbs. per bushel. The flour manufactured in our valley is generally of superior quality; the yield being 20 barrels per hundred for Mediterranean wheat, to 22 and 23 barrels for fine white wheats, per hundred bushels. Our best wheat-lands, under fine cultivation, yield 40 bushels per acre. Good farmers get an average of 20 to 25 bushels, and poor farmers fall as low as 5 bushels per acre. Of corn the same may be said; all depends on proper cultivation and quality of land; from 10 bushels up to 100 bushels per acre have been raised.

Before closing this communication, I will say a word about our servants, as many persons at the North labor under mistaken views on this subject. The servants of the landed proprietors in the Valley of Virginia are as well fed, housed, and clothed, as the laboring classes of any other community. If it were not our duty, it is our interest, to see that they are properly cared for.

Almost every family of servants have their house, beds, and bedding. They are regularly worked, and called to their meals, where there is always plenty, morning, noon, and night; and during the harvest months, many farmers send out an evening-piece, between 4 and 5 P.M. They very often work with their masters, and fare as well. If sick, medical aid is always afforded, and they are carefully nursed. They are rarely compelled to work in bad weather; and always have a patch to work for themselves, if they wish it. Many of them spend their nights till bed-time, in making baskets, mats, and brooms, &c., for their own benefit. All who wish it, are allowed to attend the preacher of their own choice, on every Sabbath; and in communion seasons have Saturday to attend church.

I have no hesitation in saying that they are infinitely better off than the free negroes amongst us, and as a mass are better fed, housed, and clothed than many of the poor white families in our community. They are generally much attached to the families in which they live, and good servants always take an interest in the prosperity of their owners. When servants become old, and unfit to work, the master is bound by the laws of the State, to take care of them as long as they live.

There are some exceptions to this general rule, and you will sometimes find hard masters, even when they have white servants.

Your obedient servant, HENRY B. JONES.

Brownsburg, Rockbridge Co., Va., Feb. 4th, 1854.

NATIONAL POULTRY SHOW.

THE largest collection of the feathered tribe ever collected in this or any other city in this country, has been on exhibition at Barnum's Museum, during the past month. The number on exhibition is said to be about 4000, and embraces the common domestic fowl, geese, turkeys, ducks, pigeons, prairie-hens, pheasants, pea-hens, quails, guinea-hens, eagles, swans, &c., each species and variety being represented by both males and females. Besides these, are deer, terrier-dogs, gazelles, rabbits, pigs, &c., &c. They occupy all the room to be spared for them in three stories of those large halls. The number of exhibitors exceeds a hundred. The most extensive of these are Mr. McCormick, of Long Island, (?) and Mr. Platt, of Rhinebeck, N. Y. The States of New-York, Massachusetts, New-Hampshire, Rhode-Island, and New-Jersey, are represented in the coops, by natives of almost all the countries of the globe.

We cannot enumerate the various birds by their names, but were very glad to hear Mr. McCormick, in his remarks on the 17th, recommend that all the fowls from Eastern Asia be called by one name, Shanghais, and the varieties be known by their color only, as white Shanghais, speckled Shanghais, &c., and to find that this plan was adopted by a resolution of the Society here and at Albany. We could never distinguish between several of the "varieties" by their appearance, and perhaps it was not from ignorance, but because they were all alike.

The addresses, on the 17th, were by several gentlemen, but we were disappointed in the amount of well-ascertained facts that were presented. We call to mind but two items of practical importance, and these were—1st, that pullets seldom commence laying eggs till they are six months old; and 2d, that the best fowl for general use is the cross of the Shanghai and Dorking.

These statements may be reliable, or they may not. We should be sorry to eject the beautiful "black Spanish" from our yards, and still hope good reason may be assigned for retaining them. The most *beautiful* birds, of *these* varieties, in this exhibition, were the Mexican game-cock, and the handsomest of the feathered race, the "golden pheasant." Then came the "silver pheasant," peacock, some varieties of pigeons, &c., &c.

The only pigs exhibited were a *beautiful* pair of Suffolks, ticketed $150.

NEW-YORK STATE AGRICULTURAL SOCIETY.

The Annual Meeting of the New-York State Society was held in the Hall of the House of Representatives, at Albany, 8th inst. The following is the list of officers chosen for the present year:

President.—William Kelly, Rhinebeck, Duchess county.

Vice Presidents.—J. C. Jackson, New-York; A. B. Conger, Rockland; Geo. Vail, Rensselaer; Le Roy Mowry, Washington; J. C. Woodruff, Onondaga; J. Barber, Cortland; D. H. Abell, Livingston; S. M. Burroughs, Orleans.

Corresponding Secretary.—B. P. Johnson, Albany.

Recording Secretary.—E. Corning, Jr., Albany.

Treasurer.—B. B. Kirtland, Rensselaer.

Executive Committee.—Edgar C. Dibble, Genesee; Elon Comstock, Oneida; Charles Morrell, Tompkins; T. B. Arden, Putnam; Ambrose Stevens, New-York.

Not being able to be present, we take the following extract of their report from the *American Agriculturist:*

The report of the committee appointed last year to take into consideration the subject of selecting two or more places to hold the future annual fairs of the Society, was then made. The report strongly urged the propriety of selecting two places to which the Society should limit their exhibitions. The conclusions of the committee were, however, strongly controverted by General Burroughs, of Orleans, and others of the members present, and the report was not adopted. The perambulating habits of the Society are therefore to be continued hereafter, and after a full consideration of the *pros* and *cons* on this subject, we are inclined to the belief that this will be most decidedly for the interests of the Society. If it incurs something more of expense and trouble, and the shows are not in all cases so full or conveniently arranged, the general result will be more satisfactory, and for this reason, we think, more useful. This Society is eminently a democratic one, and its success, and indeed its very existence, depends on its popularity with the masses, and these will only be propitiated by an occasional show, at a point which may be the most convenient to them.

The next, and only other engrossing topic of the meeting, was the location of the show the present year. The committee appointed to determine this had, by a small majority, reported in favor of holding it in the city of New-York. This conclusion was strongly opposed by several leading members, who deemed it a desecration to bring the affairs of the Society into such close proximity with the emporium of commerce and the arts. The report was, however, ably defended by Messrs. King of Queens, Stevens of New-York, Allen of Erie, and others, and after a close vote, was carried in favor of this city. On New-York, therefore, rests the *onus*, and we hope also it may prove the

honor, of providing for the forthcoming show, which a reasonable exertion on the part of its friends, we trust, will make the most effective and remunerating agricultural exhibition ever held in the United States. A persevering and united effort on the part of its friends is all that is necessary to secure these results.

The exhibition of fat cattle was very good. A large number were at the Bull's Head, and generally were well-bred, meritorious beasts. Yet we believe there were not more than two or three thorough-bred animals, though a majority were crosses of our best breeds. There is very great room for improvement in this department, which we are confident we shall realize within the few succeeding years. Most of our pure breeds are too valuable to be turned into beef, and it will not be till we are more fully supplied with them, that they can be appropriated to the shambles. Three remarkably fat spayed heifers, and one ox, pure red, and worthy of the Devon blood, were shown, and proved the very superior qualities of the breed for beef.

Only a few head of fat sheep were on the ground, and with the exception of some three or four, were not peculiarly creditable to the exhibition. Some fine carcasses were exhibited, though the display of good meats was rather meagre, and much inferior to that of last year.

No fat pigs were on exhibition, but there were a very few dressed swine of very superior quality. One pig, 9 months and 13 days old, raised by J. Winnie, weighed 386 pounds, live weight, and dressed 336 pounds, a loss of only one eighth in dressing. We inquired of the owner its breed and treatment. He said it was mostly China, and had been fed chiefly on boiled corn. Later in the season it had, in common with some half dozen others, the offal from a dairy of three cows, boiled pumpkins, soft corn, &c., with a free run at all times of a good grass pasture. This is the true way, and the only way in our opinion, of making pork-raising profitable in the eastern portion of the United States; and with great deference to the ideas and practice which generally prevail at the South and West, we believe it the true way of making the utmost profit from swine there and elsewhere. Col. Sherwood, of Cayuga, exhibited three remarkably fine specimens of Suffolk swine, which were not destined for the butcher till their breeding capacity shall be exhausted.

There were very fine samples of grain, though these were much less abundant than we have a right to expect from so large a State. We think the interests of the producers would be largely promoted by increasing the number of samples, and make this in some measure a *fair* or *market*, where buyer and seller can both meet to exchange the choice seeds of the former for the money of the latter.

The poultry exhibition, under the auspices of the Society, was very meagre in its extent, though it contained some choice specimens of fowls. This was owing to the large exhibition of the separate Poultry Society, held at the same time in Albany, which, from the superior interest and competition excited, drew off most of the fancy birds. The latter was truly a grand affair of its kind, and was by far the most meritorious exhibition of poultry, both in excellence and number, we have ever seen.

The show of dairy products was quite limited; and the display of fruits much less than last year. But there were many very fine specimens of apples, pears, and grapes. The two latter fruits are destined, ere long, to be raised in large quantities for winter use. We know of no foreign luxuries so desirable and wholesome, and at the same time so economical to the consumer, as our best native fruits. And we know of none, either, so remunerating

to the producer. We look for the production not only of these, but of other of our more delicate fruits, such as the peach, the plum, &c., (to be preserved by some new and more perfect process than hitherto adopted, by which their peculiar flavor and aroma will be retained,) in such quantities that our tables may groan under the weight of these luscious viands, instead of the crude, half-ripe, or half-spoiled foreign fruits that now occasionally, and at high prices, grace our boards.

TRIAL OF REAPERS.

We have received the following proposal from Mr. Wright, and although its details may possibly be improved, the substance of it appears free from objection. Differences of opinion might exist in relation to the persons who ought to bear the expense, and one question might come up still more substantial, namely: whether different reapers would not be preferred on different surfaces. There might be a practical difficulty here which would lead to as many opposite results as do the trials now had at annual fairs. But we let Mr. Wright speak for himself.—[Eds. P., L., & A.]

FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

Dear Sir: As a manufacturer, I desire to enter my protest against any more petty trials of reapers. They cost a great deal, and amount to nothing. The decision at one trial is reversed the next week at another, perhaps with the same machines, and often the competitors can show their defeat was owing to some extraneous circumstance, as not having a suitable team, bad driving, or unfortunate management in some way.

A reaper-trial is not like a horse-race, where the sole object is to beat, regardless of every thing except the coming out ahead; it is, or ought to be, to ascertain surely which is the best machine, and not so much to benefit the owner as the farmers, who wish to know what kind to buy.

How absurd is it for any set of men—I care not how great their experience and judgment—to take from three to a dozen reapers, perhaps all of acknowledged merit, and by the cutting of two acres each, as was done at the Wooster, Ohio, trial, where mine was defeated; or even by cutting five or six acres, as at the Richmond, Indiana, trial, where mine was victor, decide positively and absolutely that one reaper is better than all others.

Such a trial might show whether a reaper would work or not, but to judge between rival reapers, of which there are over twenty of established reputation, each having its points of excellence, a long and thorough trial must be requisite, to see how they work in different kinds of grain, and under varied circumstances, and how they wear. A trial, to be decisive, should go through an entire harvest. One, too, that was thorough and reliable, would be equally available in one State as another. They are also expensive to all concerned. I would therefore propose a general trial on something like the following plan:

Let several State Agricultural Societies unite, each appropriating $200 to $500, and appointing one or two committee-men, in whose experience, judgment, and fairness, entire confidence could be placed. Let the committee make their arrangements early as possible, adopt their rules, and appoint time and place of first meeting. They might begin South, and proceeding

North, continue the trial for weeks if necessary, leaving out one machine after another as its inferiority became manifest.

The committee should have all their expenses paid, and perhaps compensation besides; and the cost of removing reapers from place to place might also be borne by the committee, in order to enable every builder to come into the trial; and for this reason I would not require any entrance-fee, though some of the larger builders would doubtless be willing to contribute to the general fund. If five or more societies can be got to unite in such a trial, I will contribute $200 to $500, or as much as any other builder.

The surplus funds should be divided to the best machines, say half to the first, one third to the second, and one sixth to the third, to be paid in plate or money as might be desired by the winner.

To save time and expedite arrangements, I would suggest to parties interested, to correspond with Col. B. P. Johnson, *Secretary New-York State Agricultural Society, Albany, N. Y.* I have not communicated with him, but am quite sure his interest in agricultural matters will cause him to bear the labors with cheerfulness.

Yours respectfully, J. S. Wright.

Chicago, Feb. 7, 1854.

CONCRETE CELLAR BOTTOMS.

The facility and cheapness with which the bottoms of cellars may be made clean, sweet, and impervious to water, is generally but little known to house-owners; nor the ease and certainty with which water may be excluded from cellars where it is difficult to drain.

In soft and pervious soils, this process is best performed by paving with small stones, laid in sand; but in common, compact soils, the natural surface, well levelled, will answer all purposes. Make a thin mortar with water, lime, and coarse sand, of the consistency called *grout*, or so thick that it can be poured from a pail on the ground. Commence with a portion of about eight or ten feet at one end, and throw on sufficient to cover it an inch or more thick, and with a scaper, or rake-head, spread it evenly and smooth; then throw on as much clean, coarse gravel as it will absorb, and so continue until it is finished. In twelve hours, or as soon as it has *set*, sweep the overplus gravel evenly over the surface, and ramp it down with a short plank and a pounder, until it is smooth and compact, and in a few days of good weather, it will become like a solid rock. It assists its durability and firmness, to give it several good dashes of water after it is dry.

To render the sides impervious to water, where drainage is difficult or costly, requires that the wall should be laid with mortar originally; and at the time of constructing the bottom, a good, well-proportioned water-lime mortar should be plastered on, a little higher than the source of water, and well and firmly slicked down when about half dry, and followed by another coat of the same; when, if a proper time intervenes before there is any outward pressure of water, it becomes tight as a barrel or tub; is always sweet, clean, and cool, and no vermin can enter or find lodgment.

The sand used in the grout and mortar should be coarse, clean, and sharp, and the gravel from the size of walnuts down to coarse sand.—*Rural New-Yorker.*

IMPROVEMENTS IN COMMUNICATION BY HIGHWAYS.

BY ZERAH COLBURN.

THE necessities of business and social intercourse have created various means of communication. Upon the land, railroads, highways, and canals for *matter*, and the telegraph for *thought*, are among the facilities in our reach. Railroads afford the most expeditious, and at their working velotial capacity, the most economical application of locomotive power. Railroads, however, require a concentration of business for their creation and support; they are the product of society, and not of the individual. They are in all cases the *trunks* of which common highways are the *branches*, and so long as railroads are used, so long will highways be occupied in both the primary and the ultimate stages of transportation. However important the movement effected upon the railroad, it can be only *intermediate*, the traffic being *supplied* and *distributed* by the common highway. Railroads may occupy the route, and supplant the business of *coincident* highways, but *lateral* roads will be built, of an extent more than sufficient to restore the relation previously existing.

The engrossing interests of our railways almost preclude a calm comparison between them and the ordinary carriage-roads of our country; but so soon as we perceive the principle by which the latter must always exceed in extent the former, we cannot fail to be impressed with the importance of any improvement, having for its object the application of the most efficient and economical power on highways.

We must look upon the railway and the highway systems of the country as mutually dependent; neither can supplant the other.

The object of the railway and of the highway is the same—to facilitate carriage. The former, requiring greater economy to develop its value, has been made operable by inanimate power. The latter is still worked in the most primitive manner. There has been no important application of industry, or process of production, in which the service of inanimate power has not been been sought. Travelling by highway remains, however, essentially the same as at the invention of carriages. Animals still furnish the locomotive power. Without regard to the purpose of its *application*, the *quality* of power sought in modern times is in all other cases inanimate; involving less first cost, less subsequent depreciation and expense of maintenance; being more efficient, more controllable, less in opposition to the impulses of humanity, and affording employment to a higher grade of labor.

We must therefore apply steam-power to common roads, not that such application of power is as economical as upon a railroad, it being but about one eighth as efficient at the best, but that common roads must exist by the very existence of railroads; and that they must also be worked *with some power*, and that steam-power is better, for every reason, than any other.

There were many reasons which prevented the adoption of the early steam-carriages. The motive for the use of steam-carriages was different then from what it would be now. The contest was then between the *railroad*, operated by *horse* or *stationary* engine-power, and the *highway*, operated by *steam*-power. The steam-carriage had been tried, well matured, and had become successful, when modern railroad locomotives existed only as a *suggestion*. The fortunate idea which afterward determined the application of steam to

the railway, and the gigantic enterprise offered in its development, the latter not yet completed, arrested at once all further efforts in the introduction of steam upon highways. The results given by the use of steam on railways induced a belief that *such* was soon to be the universal means of locomotion upon the land. The necessary relation between the two systems was forgotten. The engineering energy and financial patronage of the country sought only one channel.

There were other reasons which kept steam-carriages from general use. While the locomotive was provided with its appropriate track, the one being made expressly for the other, the steam-carriage could only run upon the public thoroughfares, already occupied by the ordinary means of conveyance, and in the success of which the proprietors of turnpikes were immediately interested. Hence prohibitory tolls were imposed upon the intrusive steamers, and it soon became a question with their owners, not if they would prove practicable, but if they would become profitable. The influence opposed to them soon settled that point, and established the fact, not that they *could not*, but that they *should not pay*.

We have already said that steam-carriages proved successful as a mechanical application. While the question was debating, whether steam-locomotives or stationary engines should be adopted for the Liverpool and Manchester railroad, (the pioneer in English railroad enterprise,) there had been built a large number of steam-carriages; and by the time the "Rocket" had proved its capacity for speed at twenty-two miles per hour, on the railroad, steam had been used on common roads at speeds of *thirty miles per hour*. In 1829, Goldsworthy Gurney had gone from London to Bath with his steam-carriage, and in returning made a distance of 84 miles, including several stops, in ten hours. He afterward made from twenty to thirty miles per hour, while Summers & Ogle's carriage, built soon after, was run over portions of the distance between London and Southampton at a speed of from thirty-two to thirty-five miles per hour.

In the third volume of the Executive Documents of the 22d Congress is given a reprint of the evidence upon steam-carriages, given in to a select committee of the British House of Commons, and first published Oct. 12th, 1831. Most of the inventors and proprietors of steam-carriages were examined before this committee, in the summer of 1831, besides a number of prominent engineers, whose opinions were asked as to the ultimate value of such modes of conveyances, and especially as to their effect upon highways.

Not wishing to base any estimation of what may yet be done upon the achievements of a period so long passed, we should not have alluded to this document in any terms, but for the fact that it contains reliable information upon the point, important to succeeding experimentalists, and such as is not generally accessible.

At the time of the examination by the select committee, Gurney, Hancock, Summers, and Ogle, and James Stone, the latter now of New-York city, had operated steam-carriages upon highways. All of these men contended against the greatest of difficulties. Discriminating and burdensome tolls had been placed by the turnpike proprietors upon the passage of all steam-carriages, a disposition being evinced to obstruct their success; while a wide misapprehension existed as to their effect on roads. To these were added the great expense of such trials, undertaken by men looking solely to their own interests, and who were not theorists, attempting the perfection of ingenious models. And what was worse, the absence of those guides which experience had given to other branches of engineering, was an ever-present

difficulty, requiring repeated and costly trials for the determination of each proportion and arrangement.

The results elicited were, that carriages of from 53 to 80 cwt. had been built; that each 10 cwt. was equal to one-horse power, while in some cases, with better arrangement and construction, 5 cwt. yielded the same power, that the boilers were safe from explosion, the machinery safe from fracture the engine not liable to frighten horses, being free from smoke, and having no escaping steam. That a speed of ten to twelve miles per hour was an ordinary performance, while Summers & Ogle's carriage had gone at a slow speed, up a hill of 1 in 6, and 24½ miles per hour, loaded with passengers, over the London road. The same engine had gone, with 19 passengers, up a hill of 1 in 12, at 15 miles per hour. It had gone 4½ consecutive miles on a level, in 9 minutes, or at thirty miles an hour.

These engines could be stopped when going at eight miles an hour, within 21 feet. Hancock's carriage could turn around, on the inner circle of only 4 feet diameter, or could turn from one street to another at right angles, and each of ten feet width, at six miles per hour.

It was proved that there was no slipping of the wheels at 22 miles an hour.

McNeil, McAdam, and Telford, all eminent road-engineers, agreed that the wear produced by horses' feet was much greater than that by the wheels of wagons. One estimate of the proportionate wear by wheels and horses' feet was 1 to 3 on common roads, and 1 to 7 on the London pavements.

With such results actually attained during periods of several months, and in some cases for one to two years, there could be no doubt of the practicability of steam-carriages. As to their economy, it was estimated that they could save two fifths in first cost, and in wear and tear over horses doing the same work, and five fifths of the expense of feed and attendance.

Independent of these results, which have been given merely to replace them on record, the question of the adaptation of steam to good common roads, appears of easy solution.

The power that usurps the place of animals in mills, in mines, and on *railroads*, ought to do so with the same economy on common roads. The crowded streets of our cities give the best test of such a plan. The objections to *tracks*, being very serious where these are laid through streets occupied by carriages of nearly all kinds, and the bulk, danger, noise, and expense of horse omnibuses, would be essentially reduced by the substitution of a good system of steam-carriages.

[The foregoing is taken from the *R. R. Journal*, and is followed by a commendation of Mr. Fisher's steam-carriage, which was described in our last number, and on which another article will be found in another page—EDS.]

VALVE MOTION.—T. Goodrun, of Providence, R. I., has applied for a patent upon an improvement in the arrangement and mode of operating the valves of steam-engines, which consists in regulating the admission of steam to the cylinder by means of rotary tubular valves placed in the cylinder-heads, and receiving a constant rotary motion, and in exhausting the steam from the cylinder through ports in the cylinder-heads, furnished with puppet-valves opening inward, these valves being so connected that when one is opened the other is closed, they being operated by the piston, which opens the one and closes the other at each end of its stroke.

AUSTRIAN SALT-MINES.

PUTNAM'S Monthly, for February, contains a description of a visit to a salt-mine in Austria. It may be taken as a sample of the mining of Central Europe. The author, having been robed in a miner's dress of white duck, and having taken the precaution to guard his right hand with a thick mitten, and his head with a well-wadded cap, commences his subterranean exploration.

The first process was to walk through a long, narrow, dark, cool passage-way, gently descending for three thousand feet, into the mountain's heart. As the workmen passed me on their way to dinner, we had to make the best of our poor candle-light to get by one another in the confined path, and each said, "laub," a hasty contraction for the German, "with your leave, sir." And now came the curiosity of this underground journey. The gently sloping path, sustained by boards and beams, and just wide and high enough for one beef-eating Englishman at a time, made a sudden dip, and the guide threw himself down, and made me do the same; slipped his right leg over a smooth, wooden rail, and grasped with his right hand a cable supported on rollers; and thus we slid down as fast or slow as we pleased, a depth of one hundred and forty feet at an angle of forty-one degrees. It was not very funny to see your only dependence in human shape sinking out of your sight into the bowels of the earth; but I found the exercise delicious, and would recommend it to all good people who have mines to exhibit or sunken caves to explore, as certain to bestow upon them an unprecedented popularity.

This was succeeded by another gallery-walk, then a second descending shaft—again a nearly horizontal footpath, followed by a third "coast" downwards—and so on, the longest walk being the first of about three thousand feet, and the greatest descent at one time falling short of two hundred feet. In no part was the air unpleasant; the greater coolness was compensated by the constant exercise and the thick miner's dress. Several times we came upon large chambers, which showed with no brilliancy, as our poor candles made their darkness visible, because the saltspar is mixed up with large masses of earth, though some fine crystals are shown at a little museum, in the centre of the mountain. After this succession of similar passages had begun to be monotonous, a number of little lights began to spring up all around me, as if in fairy land; and the guide to a flat boat, which an invisible Charon set in motion at once across this lake of salt, over three hundred feet in length. Here was the secret of secrets. A chamber is excavated, wooden pipes are led to it and from it, the first of which brings the fresh water from mountain springs which gradually impregnates itself with strong brine: then after a period of months the lower pipes are opened, and the manufactured little ocean runs off to some place where wood is plenty, where I had already seen it at a distance of thirty miles, boiling down into a beautiful, pearly-white article for commerce. I was not a little perplexed at first, and I find other travelers have come away without ascertaining how the salt was procured, by not seeing the whole process going on at once, and from supposing that this pond was made by nature, and had no special concern with the government manufacture. But, as fast as this lake is formed and the fresh water dissolving the salt and separating it from the clay, another is prepared, where the mineral is thought to be more abundant; and only the worthless earth is seen in process of removal in little carts, while the precious

salt carries itself out silently and away from observation, in hollowed trunks of trees. The great care is to prevent the earth from falling in upon the workmen and crushing them, as has been the case repeatedly; but the most surprising puzzle to an uninitiated observer is, why, in the process of six months or a year, this water does not run off through some natural outlet, by dissolving the salt in its way. These ponds must sometimes lie very near together, and directly above one another; besides, as their roofs are entirely flat, frequently destitute of artificial support, and what rock there is crumbles to the touch, we might expect these wide sheets of water would break through. Accidents, however, are rare, though there are sometimes forty excavations in a single mountain.

How parties of pleasure feel in crossing over this deathlike lake at such a funereal pace, with not a sound to break the oppressive stillness, and rarely a single crystal reflecting the feeble twinkle of the illumination for which you have paid, I cannot say; but, to a lone voyager like myself, it was one of the most solemn moments of life; darkness seemed to rest like a tombstone upon me; none but fearful images filled my visions; the repose of my body added to the gloom of my mind; and it was a blessed relief when I could use my own limbs on what seemed solid earth again.

Still other slides came, one at an angle of fifty degrees, and one, the longest in all the works, of four hundred and sixty-eight feet. This brought me as far down as the four miles of winding road had carried me up; but, as there was none of its sudden changes of view, no wild forest, merry mountain-stream, knot of cherry-faced peasant-girls, laughter of happy childhood to "cheer the toil and cheer the way," I may be pardoned for wishing myself out.

But now came a new vehicle. I stood alone in the very heart of this mountain of limestone, gypsum, and marl, when two wild boys mounted me between them upon a wooden horse, on a rude enough wooden railway, and, in a moment, my steeds began to show their metal, and I was run through a passage of a mile tunnelled in the solid stone; once only the ragged colts paused to take breath, and to let me admire the light from the mouth, which seemed nothing else than a bright blue star. Very soon genuine daylight came to our relief; and but slightly wearied, I bounded from the cavern mouth to take the Eilwagen on its return to Salzburg.

I learned a little more of the salt trade in Austria. It is a government affair, and six thousand men are said to be employed, some in preparing the rock crystal for the market, some in boiling or evaporating the sea water, and more in connection with mines like the Durnberg. The men did not seem very healthy, and one part of the process must often cause the sacrifice of life. At Ebensee, I found them boiling down the water brought from Hallein in thirty miles of pipes, and I learnt that whenever the iron vat leaks, a workman is obliged to wade through the boiling liquid to the injured place upon a kind of stilts; if his feet should slip, he would certainly boil to death, and if not of strong lungs, he is likely to stifle, a horrible fate either way. For more than a week, these fires are continued day and night, eating sadly into the forest, the salt being removed as fast as it is crystallized, and fresh brine poured in. Then the fire is extinguished, the pan, which is a foot deep and sixty round, thoroughly retinkered, the calcareous crust which adheres to the bottom and sides broken off, and poor plates replaced by new.

THE GREAT EXHIBITION.

Since the matter for our last number was prepared, the various jurors and judges have made their several examinations, and have pronounced their decisions. Medals have been awarded or denied, "honorable mention" has been made or declined, and the hopes of some have become fruition, and the fears of others have proved to have been well-founded. Nor would it be strange if injustice should be, to some extent, the result. In justice to all concerned, it is not, perhaps, too much to say that it is better to have jurymen thoroughly familiar with the several matters on which they are to decide, than those who are not specially practised in the business which they are to judge, although they are very respectable, very honorable men. "Perhaps you may sometimes be placed in the same position," was the remark of one to an unsuccessful exhibitor, who found fault with his decision. And when asked for an explanation of his language, he replied, "You may be called to judge on a subject on which you are not informed." For one, we should not voluntarily place ourself, nor allow others to place us, in such a position, and we should regret to see others less cautious than we would be on that point. It would also have been wise not to have allowed a single instance in which one that could be called a rival in the market, even though he was not a competitor within the Crystal Palace, to have been upon any of the juries. We believe, however, that as much caution was used on all important points connected with this matter, as the nature of the case would admit.

The several degrees of honor are represented by a silver medal, bronze medal with especial mention, and a bronze medal. The gold medal, so common in the more important contests for distinction, was entirely omitted. This may have been wise, but it unhappily admits of a less "honorable mention." To invite artists to cross the Atlantic, and some of them the Mediterranean besides, and at the best for a silver medal, is presenting rather a small inducement, at least for a very expensive kind of exhibition, or one liable to serious damage. Perhaps, however, the dissatisfaction, if any exists, will be only momentary. The "honorable mention," if it be of light value, is certainly bestowed with a heavy hand. According to an exchange, (for we have not counted them,) the whole number of silver medals is 116; of bronze medals, 1168; with 1210 instances of "honorable mention." American exhibitors receive most of these awards; though 35 silver medals were awarded to foreign artists. Out of 25 silver medals awarded to machinery, our own artists receive 24.

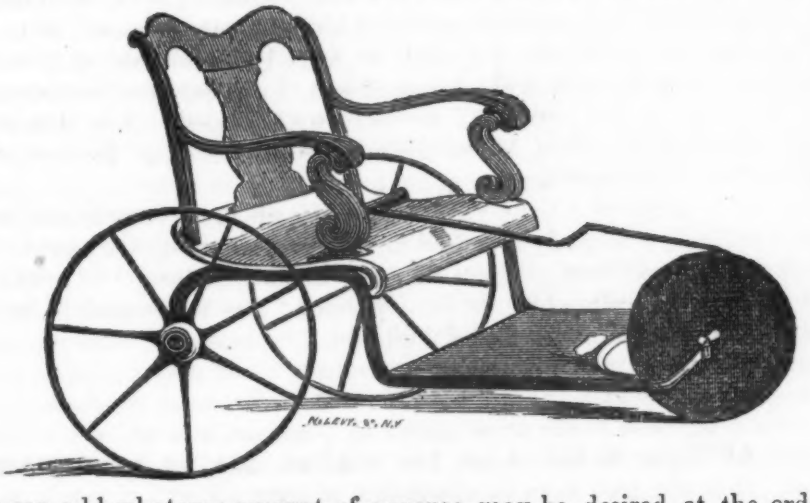
"In the departments of agricultural products and implements, naval architecture, textile fabrics, ladies' garments, shirts, &c., and India-rubber materials, our own country absorbs all the honors of the silver medal." We fear our juries, in this, have not been just to "our trans-atlantic neighbors." They surely exhibited some very beautiful goods.

INVALID'S LOCOMOTIVE CHAIR.

Among the articles designed to promote the comfort of the sick and disabled, is an invalid's chair, patented by Thos. S. Minniss, Meadville, Pa. An engraving of it is annexed.

It is so arranged, that it is set in motion and guided by the handle which is attached to a crank on the wheel. When the chair is to be drawn by others, the position and arrangement of the crank can be instantly adapted

to such use, or the chair may be pushed by another person, while it is guided with the handle of the crank by the invalid. In its construction it is light, compact, and durable, and in a cheap form is offered at $20. The uphol-



sterer can add whatever amount of expense may be desired, at the order of the purchaser.

Messrs. J. L. and D. J. Riker, 96 Suffolk street, are the agents in this city.

STEAM CARRIAGES.

The *Scientific American* affects to be surprised that, "in these days of railways and cheap locomotion," several of its cotemporaries should advocate steam-carriages for common roads. It admits, however, that before railways were invented, there might have been a show of reason for them. And, as we find in that journal, (in 1848, we believe,) an engraving and description of Gurney's steam-carriage, and a recommendation of it for plank-roads, we presume that down to that date it will not deny that there was some plausibility in the project. But since Mr. J. K. Fisher has proposed to build a carriage, and has failed to pay this journal the necessary cost for publishing a description of it, the case seems to have changed; and it has undertaken to prove, by instancing the failure of some steam-carriages—Gordon's improvement on Gurney's—that no steam-carriages can successfully compete with horses. It is unfortunate that no such carriages were ever built at all. But had they been built, and failed as stated, it could have proved nothing; for we have proof that Gurney's, Ogle's, Hancock's, Macrone's, and Russell's carriages were brilliantly successful; that they ran at 16 to 20 miles an hour when loaded; and that they would have worked with profit had they not been subjected to prohibitory tolls, to such obstructions upon the roads as stopped horse-carriages, and to the action of magistrates, who were compelled to enforce unjust laws against them.

If this journal supposes that railways ever will supersede common roads, and go to every house, it may preserve a logical consistency; but if common roads are to be used at all, then the cheapness of locomotion, which is due partly to steam, is in favor of steam-carriages. And as the cost of light engines, since the practise in locomotive-building, is about half what it was

before, while the work is much improved in quality, the advantage must be greater than it could have been before "these days of railways and cheap locomotion."

Gurney, Forey, Gordon, and other advocates of this system, estimated the cost of steam-power from a fifth to a third of that of horse-power, in 1831. And a committee of the House of Commons reported unanimously that they would "become a speedier and cheaper means of conveyance than carriages drawn by horses;" and that they would injure roads much less than horses. At the present time their economy must be greater in proportion to the improvements in machinery.

The course pursued by the *Scientific American* upon this subject has, at least, to those an interest too much the appearance of that of a paper which expects a direct pecuniary benefit as a necessary preparation to a favorable notice in their columns. This seems the most obvious explanation for their distorted statements of facts on this subject.

SECOND ANNUAL MEETING OF THE UNITED STATES AGRICULTURAL SOCIETY.

This important meeting was held at Washington, commencing on the 22d of February, and continuing several days. Able addresses and discussions were delivered, but too late for our present issue. We shall give their proceedings careful attention in our next number. The weather at its opening was very unfavorable, and the roads were blocked with snow; but the attendance was highly respectable.

THE IRON MANUFACTURE.

Iron is seldom found unalloyed in its native state, though such specimens sometimes occur. In Canaan, Ct., is a vein, two inches thick, which is sufficiently malleable to be made into nails by a blacksmith. Similar veins have been found in Europe.

Iron is, however, obtained for commerce from the ores or oxides, and the more common forms of it are the magnetic oxide, the peroxide, and brown oxide, and in the form of a carbonate.

The magnetic black oxide occurs over large parts of the Eastern continent, and in this country, and to a moderate extent in England. On the New-York side of Lake Champlain, in Peru, and in other townships, it is found in great quantities, and of very fine quality. We have seen specimens that contained 80 per cent. of iron. It also occurs at other places, as at Bridgewater, Vt.; Franconia, N. H., &c. The mines more recently opened in Missouri are of this class.

This oxide is found in connection with gneiss, hornblende, greenstone, limestone, epidote, garnet, &c. It is not found among the more recent deposits. The locality near Lake Champlain is exceedingly rich in the variety of its minerals. It is strongly attracted by the magnet, and itself possesses magnetic power. The form of its crystals is octahedron.

The peroxide is called the red oxide, and also specular iron. It has no magnetic power. By heating it highly, it is reduced to a magnetic oxide. It contains from 70 per cent. of iron to a much smaller proportion.

This oxide is often used as a paint, after undergoing the process of calcination. It forms a red-brown, a Spanish or Indian brown. The houses of the peasantry in Northern Europe are usually painted with it.

This oxide occurs extensively in Northern and Western Europe, and in this country. An inferior quality of it exists extensively in the Pittsburgh coal-fields, and it is also found in Ohio, in Massachusetts, and Western New-York. It is often found in nodular forms in beds of clay, and gives color to all our deposits of red clay. Specular iron sometimes occurs in crystals, in the craters of volcanoes.

The brown oxide of iron, familiarly known as hematite, is also the hydrated oxide, as it contains a large admixture with water. It never contains more than about 59 per cent. of iron.

Hematite is not magnetic, but becomes so by roasting. When calcined, it yields a red powder. It is found in various forms, as globular, mammillary, reniform, stalactitic. It is abundant in every part of the globe, and in almost all geological connections. The principal beds of it in this country are in Pennsylvania, where are found its richest varieties. In Kentucky, Tennessee, and Alabama also, are inexhaustible quantities. Mines of it occur in most of the New-England States. "It furnishes excellent material for the blast furnace, yields cheap pig-metal, and of all classes of ore is the most suitable for improvement in the forge, as well in the charcoal forge, as in the puddling furnace."

The carbonate of iron occurs in various localities in this country, and in Europe. Some of the best of iron and steel is manufactured from it. In Austria, most of their iron is from this ore, and the "German steel" is one of its products. In England and Scotland, the compact varieties of the carbonate is their principal ore; and it occurs extensively in Pennsylvania, Maryland, Virginia, Ohio, North Carolina, Kentucky, and Illinois. The spathic iron ore, the variety of which occurs in Austria and Germany, is also found in considerable quantities in Plymouth, Vt., and is used there in the manufacture of iron. It is sometimes called native steel. It seldom contains more than 30 per cent. of iron, often not more than 25.

The affinity of metals for oxygen is very strong, with the exception of gold, silver, platinum, and iridium. Hence, these are called Royal metals. Simple exposure to the atmosphere or to moisture will lead to a speedy oxidation. This, in fact, is the process used in the manufacture of some of the oxides. Thus, "white lead," which is the white oxide of lead, is obtained by exposing plates or sheets of the pure metal to air and moisture.

On the other hand, it is the business of the metallurgist, the manufacturer of metals, to separate the pure metal from its oxygen, and from all other substances. This is the business of the iron maker.

The manner in which this is to be done depends upon the nature of the foreign substances mingled or combined with it, and the degree of its oxidation. The strength of affinity varies with the number of different elements in combination.

The processes for accomplishing the object thus set forth are two-fold:

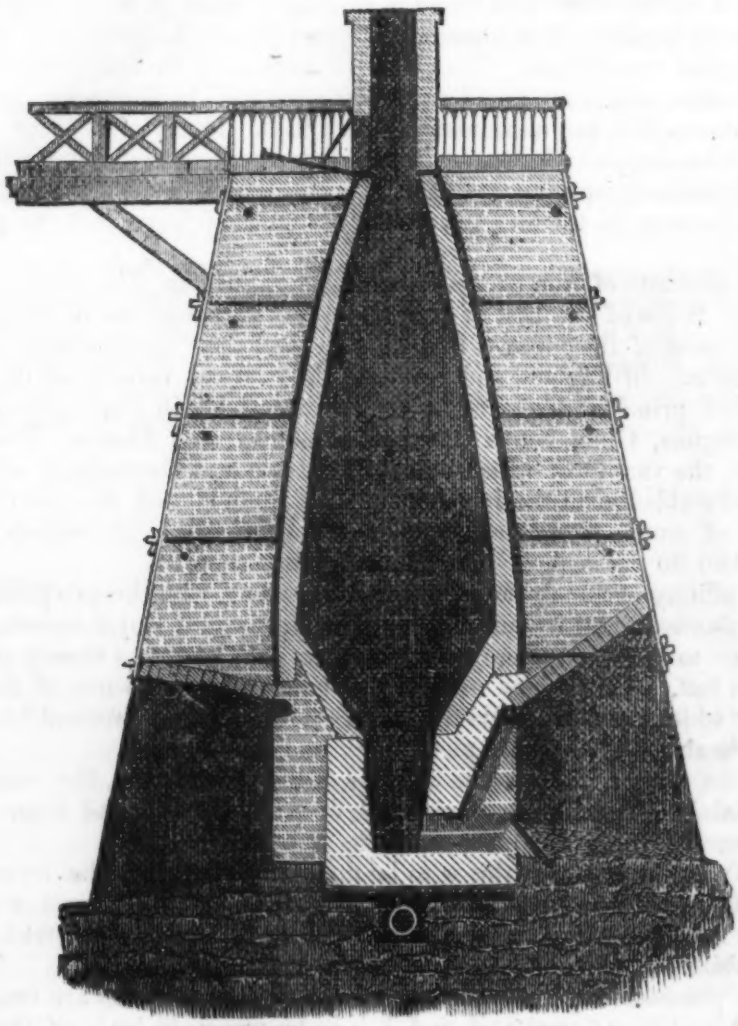
If A and B are combined, and A is to be preserved by itself, they may be separated by presenting a third, which will draw away B, and combine with it, or in some instances, it may be done by applying heat.

Now, it is well known that carbon and oxygen have a very strong affinity for each other, and if carbon is presented to many oxides under favorable circumstances, the oxygen will unite with it, forming carbonic acid, while the metal will be left in a pure form. Some of the metallic oxides are thus se

parated by heat alone. Gold is one of these, and so are platinum, iridium, palladium, &c. The oxides of iron are separated by a powerful heat.

But sometimes, and usually, other foreign substances are mingled with the oxide of iron, such as phosphorus, sulphur, and other metals. Hence, different processes are required, under different circumstances, as already stated. Our next object will be to state these processes, in a very general manner.

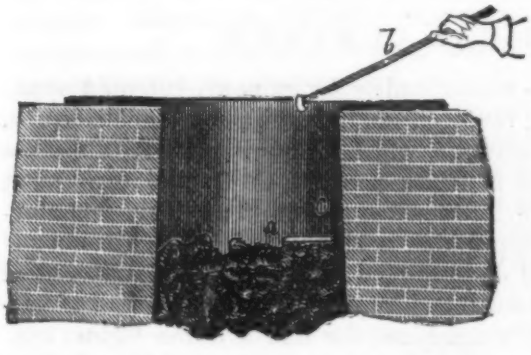
Let us premise, however, that certain terms are used in the arts, which, however common, have a technical meaning. Thus, in this art, we have a process called *roasting*, by which is meant the application of heat. But this is done in various ways, in a furnace, under a direct and powerful heat, or in large heaps "in the open air," and not unlike a brick-kiln in principle, or a pile of wood ready for charring.



Furnaces are arranged especially for roasting, and the front section of one is given above. There are different forms of these ovens, but they may be reduced to two, the blast-furnace and the lime-kiln, and they work either perpetually or by charges. We are able to present but this single form, and for this and the other illustrations of this subject, we are indebted to our very obliging friend, Mr. W. White Smith, of Philadelphia.

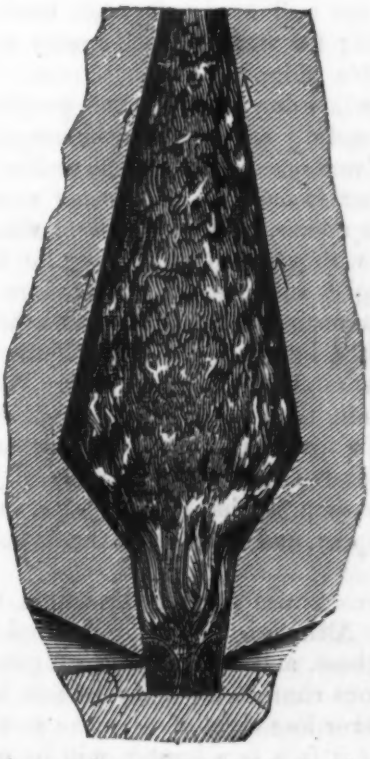
The furnace is always liable to chill, that is, the iron clinkers suddenly cool

near the tip or mouth-hole, impairing the draft and choking it up, in which event the whole interior work must often be taken out and relaid. To prevent this, the furnace should be filled regularly; the quantity of ore just filling the furnace. To secure this, a charge measure is often used, constructed of two half-inch round bars so connected that one bar sinks into the furnace while the other serves as a handle; *b* forming the handle, *c* the measure, and *a* the iron plate which prevents the sinking of the rod into the materials.



As already suggested, divers kinds of furnaces are employed in the reduction of ores, and various kinds of fuel are employed, of which we may treat separately hereafter. Also the various *fluxes* which are used to expedite.

The figure on the margin represents a section of a blast furnace in operation, filled with coal, ore, and fluxes. If we introduce at the tuyere holes, *a a*, a current of air, or blast, combustion in the lower part will ensue, and carbonic acid will be its product. But if there is an excess of fuel, and a limited supply of air, the result will be carbonic oxide. In its progress through the coal, the carbonic acid combines with more carbon, and is reduced to a carbonic oxide. Carbonic acid is of no use in reviving iron from the ore, for the ore is iron and oxygen, and the acid cannot combine with an additional quantity of oxygen, and cannot, therefore, abstract any amount of oxygen from the ore. But carbonic oxide will combine with oxygen, with which it comes in contact within the furnace. The principle which governs the construction and management of this furnace, therefore, is so to arrange the fuel and the draft, as to secure the greatest possible combination of the product of combustion with the oxygen of the ore. If all the oxygen is thus abstracted, the ore, as it descends, will become metallic iron and foreign matter.



As we do not write this for the practical worker in iron, but for the general reader, it is unnecessary to go further into this subject by pointing out the difference between white iron and gray iron, &c., but we merely add that the blast works both chemically and mechanically in the destruction of coal, and that a certain power of blast will produce particles of a size best calculated to penetrate the pores of the ore. If the metal is liquid, it is difficult to separate the carbon from it, and to secure a combination of carbon with it.

We shall pursue this subject in our next number.

AMERICAN GAS COMPANY.

ON THE CHOICE OF BROOD-MARES.

ONE of the most important elements of success is the choice of brood-mares. Never breed from a mare which is not well bred. By well bred, I do not mean having many crosses of blood; for many mares, nearly and even quite thoroughbred, are very undesirable animals to breed from. A well-bred mare, in the true sense of the word, is one of which the progenitors, for many generations back, have been carefully selected. In this respect, Yorkshire breeders possess a considerable advantage over those who reside in districts where breeding is less extensively carried on. In the former country, it is easy for a farmer, even of moderate means, to procure mares which are above the suspicion of being tainted with cart-blood. Owing to the abundance both of thoroughbred and "nag"* stallions, a roadster mare is seldom or never put to a horse of inferior stamp to herself. Thus, with little or no trouble or cost, a class of mares is in the hands of Yorkshire farmers, which elsewhere it would require much expense and research to gain. With but little of outward show to recommend them, they breed excellent hunters, when put to a suitable thoroughbred horse; whereas, mares of similar appearance in other countries would only produce stock fit for harness, if, indeed, they were good for any thing. The reason is, that in the latter case the cart or other inferior crosses would reappear, and thus baffle the calculations of the breeders.

Perhaps mares such as the Yorkshire farmers use are, on the whole, the safest for the agriculturist to breed from. Although not so high bred as some others, they are less expensive to purchase, and require less judgment in their choice than those of a more ambitious character. They possess one recommendation which the farmer should never lose sight of—I mean power. Let his object be to produce a colt, which, if it fails as a hunter, will be useful in harness; or, if some accident should unfit him for fast work, will at any rate take his share of work on the farm. I know no better test of success than this, namely, that the colt which loses a portion of its conventional value, should yet retain its real usefulness. Always make strong, well-set-on fore-legs a primary object. They should be placed forward, so as to be an efficient support to the animal; and the shoulder ought to stand backward,

* A "nag" is a roadster. He is less in size than a coach-horse, and better bred.

in order to allow the legs liberty of action; but it must be somewhat round and full, not thin and confined, which some persons conceive to be a *fine* shoulder. Never breed from either mare or stallion with a decidedly bad shoulder. An animal may dispense with almost every other point of excellence, and yet be of some value; but if it has a bad shoulder, it bears so thoroughly the stamp of worthlessness, that nothing else can make amends for this fundamental malformation. If your mare is tolerable in her shoulders, but not very good, endeavor to find a stallion which is particularly excellent in this respect. The fore-legs and shoulders being right, action usually follows. But this being a very important point, do not take it for granted, but subject it to your strictest scrutiny. For my own part, I almost think as highly of action in a horse, as Demosthenes did of it in reference to an orator; at any rate, not even the most fabulous combination of beauty, breeding, temper, and shape would induce me to buy a horse which did not possess it.

The foot ought to be taken up straight, by a graceful bend of the knee, and set down again flat, without any deviation either outwards or inwards. The most common faults of action are a sort of shovelling movement forward, with the knees almost straight, and a sideways motion, either outward or inward, with one or both feet. But it is quite possible for the knee to be too much bent, and the foot to be apparently pushed backwards when taken up, instead of forward, thus causing it to be set down too near the place whence it was raised. Objectionable, however, as such stand-still action may be in a hack, I should prefer it in a brood-mare to the opposite defect.

The great reason why action in the mare is so essential is, that she having the roadster blood, ought to supply it; whereas, it is not always possible to find it in a stallion; it is, indeed, very rare to see a thoroughbred horse whose action is such as would be desirable in the park hack, the roadster, or the hunter. The racing man cares not, provided his horse's head is first seen at the winning-post, in what form he moves his fore-legs. The qualities which win fame for the racer are speed, endurance, and pluck. The conformation most conducive to speed depends more on the back, loins, and hind-legs, than on the fore-legs; it is therefore by no means uncommon to find horses, whose performances on the turf have been above mediocrity, with fore-legs such as would not wear for three months on the road, and with action such as no man would willingly endure in his hack or his hunter. Thoroughbred horses, with every point such as the breeder would desire, combining power and beauty, equally excellent in their fore-legs, their ribs, and their hind-legs, are not to be met with in every neighborhood, and even when found, will seldom cover half-bred mares at all, and then only at exorbitant prices. These are the magnates of the stud which will not condescend to mates of descent less illustrious than their own. If, then, you cannot secure their services, you must avail yourself of the best within your reach. Supposing your mare has the fore-legs of the action which I have recommended, you may safely put her to a horse which has tolerable fore-legs, provided he is in general power, in pedigree, and in performance such as you desire. I mentioned in a former letter that I once put some mares of my own to "Tomboy;" his fore-legs were by no means first-rate, and his front action was decidedly scrambling and bad; but my mares being excellent in both these points, their stock showed no traces there of their sire's deficiency. To breed colts with bad fore-legs and insufficient bone, is to encumber your land with stock neither useful nor salable. With mares of first-rate excellence in that respect, you greatly extend the range of stallions which it is safe to put to them.

I shall not enlarge upon other points of the mare in detail, for the reason that their selection may in general be left to the discretion of the breeder; and also, because there are many of them which in practice will be more frequently supplied by the horse than the mare. I must say, however, that I should not like to breed from a mare with a bad head or a small eye. Natural soundness, especially in the feet, is very important, and so is good temper. With mares, as with cows and ewes, there is a certain character difficult to describe, but which the experienced breeder knows by instinct, as belonging to those likely to produce good stock. It is not the largest or the most showy, but those which have a certain refinement of form, and a gracefulness of outline, (which are ascharacteristic of the well-bred female as power and muscle are of the male,) which will most faithfully reflect in their offspring their own merits, and those of its sire. Many a large, showy mare, on the contrary, will be provokingly uncertain in her produce; one year bringing a foal as much undersize as next year it is overgrown. Such a mare ought to be discarded as soon as possible.

By observing the course which I have recommended, farmers who exercise ordinary judgment will make as safe an investment as they would in the breeding of any other kind of stock. Their colts will make either hunters, carriage-horses, or hacks of a useful and powerful kind.

There is a class of mares much higher than that which I have described above; I mean those which combine great power with a pedigree little short of thoroughbred—mares which have in their youthful days been foremost in the hunting-field, and contended, perhaps not unsuccessfully, in the steeplechase. Such are the dams of the cracks of the Melton field, and of the victors at Liverpool and Leamington. But they are so difficult to buy, and so rarely in the market, that the majority of breeders have little chance of trying their luck with them. Their owners naturally desire to secure a foal, when it may be a great prize, won at a small cost, and will therefore seldom be disposed to part with them. It requires, moreover, a more ripened judgment, and more mature experience, to select mares fit for the production of first-class hunters and steeple-chasers, than for the rearing of a less ambitious character of stock. The stallion to which they are put ought to be one of a superior class to the majority of the itinerant animals which secure the custom of so many farmers, simply because they save them the trouble of further inquiry. It may be laid down as a general rule that the horse ought, if possible, to be a better animal than the mare. Then there is the difficulty, even when a horse of tried excellence is found, of discovering whether his points and his blood suit the mare. The art and the science of breeding first-rate horses are not to be mastered without much thought, trouble, and research. There is no royal road to it. He who wises, in spite of every obstacle, to attain golden results, must adopt a course the very antipodes of the too common one, of putting some mare, because he happens to have her, to some horse, because it happens to come into his yard. He must never breed from a bad mare or a bad horse; nor must he grudge a few pounds spent in securing the best of either sex within his reach. A judicious outlay of capital will here assuredly not fail to reap the reward which has attended the improvement of every other description of stock.—*Mark-Lane Express.*

FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

LINIMENT FOR HORSES.

MESSRS. EDITORS: I send you a recipe for a liniment, which is much used here by farriers for bruises, sprains, and ulcers.

One individual in our place monopolizes the sale of the article, and designs to keep it a nostrum. I learned the ingredients from his purchasing the medicines of me. He is using and applying it to the human species, as well as our domesticated animals.

℞. One pint strong alcohol.
℥ ss. Sulph cupreus or *blue vitriol.*
℥ i. Camphor gum.
℥ i. Nit. potash, or *saltpetre.*
} Pulverize.
℥ ii. Aqua ammonia.
℥ ii. Tincture myrrh. Let it stand twelve hours, frequently shaking it.
Add spirits terabinth, or spirits turpentine, half a pint.
When used, shake and mix well. ARIEL HUNTON.

Hyde Park, January 6, 1854.

FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

HOW TO RENOVATE ORCHARDS.

GENTLEMEN: I have a farm, on which there is an old orchard. This orchard, many years ago, bore very abundantly. Can there be any thing done by grafting or pruning to make the trees bear fruit, or would you advise setting out new trees? I have heard of old orchards that were made to produce as well as ever by grafting and pruning. You will oblige many interested in the cultivation of fruit, by giving the desired information.

Very respectfully yours, G. F. F.

Wilmington, Del., February 10, 1854.

REMARKS.—Our reply to these inquiries is as follows: Scrape and thoroughly cleanse the bark of your trees; carefully trim the branches, not with a hatchet, but with a fine saw or knife; remove all the sods from around their stumps, and keep the soil soft and rich, in which work a few hogs will be of material service, and it will not be long before the good results of these means will show themselves.

EDITORS' JOTTINGS.

PHILADELPHIA, WILMINGTON, AND BALTIMORE RAILROAD.—In our December number, we made mention of several valuable improvements introduced under the energetic management of Mr. Felton. The *Evening Bulletin* (Phil.) thus refers to the new cars and car-seats:

"The Philadelphia, Baltimore, and Wilmington Railroad Company is entitled to the honor of having been the first to introduce the couch-seat into the cars. Mr. Felton, the President of the road, and Mr. Spafford, the General Superintendent, have taken a commendable interest in the matter, and as a consequence, the new seats have had a fair practical trial. Two splendid cars, built for the purpose, at the company's works, at Wilmington, were placed in the hands of Mr. Hammitt, and were fitted up by that gentleman. A double row of hand-

some walnut spring-seat chairs, covered with enamelled cloth, run along each side of the cars, much in the same manner as the old-fashioned arrangement. Each chair is entirely independent of its neighbor; at a first glance it presents much the appearance of a mere comfortable chair for sitting purposes, but a close inspection—or what is better, a fair trial—satisfies the traveler of its important advantages. Each seat is furnished with a sliding head-rest, which can be adjusted, without trouble, to suit the stature of any passenger, whether he hails from Brobdinag or from Lilliput. The rest, which is made to conform to the shape of the head, is so padded and arranged with elastic springs, that a most delightful pillow is insured. The occupant of the incipient bed has then but to touch a brass knob at his side, and leaning back, he finds himself reclining at a comfortable angle on a couch which might be considered luxurious in a well-appointed chamber. The action of the chair when falling into its reclining position, throws up a padded leg-rest, and the occupant thus secures for his entire body the recumbent posture so essential to the enjoyment of repose. By an ingenious and simple contrivance, the seats are arranged so as to revolve to suit the direction in which the cars may be moving.

"As we have already intimated, the cars containing the patent seats were put in service on the Philadelphia, Wilmington, and Baltimore railroad during the present week, and they elicited the universal approbation of the passengers who occupied them. From the complete success of this experiment, we anticipate that the time is not far distant when every railroad company throughout the country will see the importance of adopting this new seat, especially for the night lines. Travelers who have once enjoyed the advantages resulting from its use, will not be satisfied with the old-fashioned, permanent affair, in which many a travel-worn mortal has worried through a long night, too weary to sit erect or keep awake, and deprived, by the fashion of his seat, of even a resting-place for his drowsy head. To any one who has traveled in a train, at night, over a long route, it will be needless to point out the miseries attending the old system, or debate upon the important advantages of the new improvement."

Long-Island Railroad.—Business led us a short time since, some distance on this road, and we were pleased to observe the signs of rapid settlement in the erection of numerous tasteful cottages and villas, where, but a short time since, was an open plain, or stunted scrub, oak, and pine. Long-Island is indeed waking up, and already on the line of the railroad have we the beautiful villages of Woodhaven, Brookville, Lakeland, Edenvale, and many others. That it should not have earlier attracted the notice of emigrants, and those wishing a country life or a home at small cost, may be attributed to the efforts made by the large steamboat and railroad interest pointing to the great West, as the only spot for successful emigration; but the high rents in New-York, Brooklyn, and Williamsburgh have caused attention to be given to places nearer home, and the great facilities offered by the Long-Island railroad to parties doing business in these cities, is shown in the numerous and thriving villages springing up along its line. Long-Island has always been noted for the salubrity of its climate, and the longevity of its inhabitants, its temperature being about ten degrees cooler in summer and warmer in winter than those parts of the Eastern States adjoining Long-Island Sound. The fare on this road is about two cents per mile, and the rates of commutation are, if not the *lowest, among* the *lowest* in the country; and we learn it is the intention of the Company to run trains both in and out of the city at such hours as will suit those who wish to be both early and late at their places of business.

The Ottomans.—A late traveler in Turkey thus describes some of the peculiarities in the manners and customs of the Turks:

"They abhor the hat; but uncovering the head—which, with us, is an expression of respect—is considered by them disrespectful and indecent; no offense is given by keeping on a hat in mosque, but shoes must be left at the threshold; the slipper, and not the turban, is removed in token of respect. The Turks turn in their toes; they write from right to left; they mount on the right side of the horse; they follow their guests into the room, and precede them on leav-

ing it; the left hand is the place of honor; they do the honors of the table by serving themselves first; they are great smokers and coffee-drinkers; they take the wall and walk hastily in token of respect; they beckon by throwing back the hand, instead of throwing it toward them; they cut their hair from the head; they remove it from the body, but leave it on the chin; they sleep in their clothes; they look upon beheading as a more disgraceful punishment than strangling; they deem our short and close dresses as indecent, our shaven chins a mark of effeminacy and servitude; they resent an inquiry after their wives as an insult; they commence their wooden houses at the top, and the upper apartments are frequently finished before the lower ones are closed in; they eschew pork as an abomination; they regard dancing as a theatrical performance, only to be looked at, and not mingled in, except by slaves; lastly, their mourning habit is white; their sacred color, green; their Sabbath-day is Friday; and interment follows immediately on death."

To Obtain Skeletons of Small Animals.—Put any subject, such as a mouse or frog, (if a bird, strip it of its feathers,) into a box perforated with a number of holes. Let it be properly distended, to prevent the parts from collapsing, or being crushed together by the pressure of the earth. Then place the box with its contents in an ant-hole, and in a few days it will have become an exquisitely beautiful and perfect skeleton. The ants will have consumed every part of it except the bones and ligaments. The tadpole acts the same part with fish that ants do with birds; and through the agency of this little reptile, perfect skeletons, even of the smallest fishes, may be obtained. To produce this, it is but necessary to suspend the fish by threads attached to the head and tail, in a horizontal position, in a jar of water, such as is found in a pond, and change it often, till the tadpoles have finished their work. Two or three tadpoles will perfectly dissect a fish in twenty-four hours.

Metallic Cask-making.—The new and ingenious principle of making casks from metal, patented by Mr. Clare, of this town, is now in operation at his works in Nash-grove. The casks are made by machinery, expressly adapted to this new branch of manufacture, by skillful engineers, whose services were secured for the purpose. The staves, specimens of which have already been exhibited in public, are of peculiar construction, and the great difficulty to be overcome was to produce each stave complete by one operation. This is effected by means of a screw-press, to which a large mechanical power is applied. The iron is cut into required lengths, and after being subjected to a powerful heat in a furnace, is transferred to the press, where it receives its exact form, a mould. The machine throws out the staves at the rate of one per minute. It is necessary to cut the iron in opposition to the grain, in order that when the flange is formed it may be made without cracking. The staves, on being completed, are grouped, and formed into casks when required for use. Each stave is calculated to bear a pressure of 100 pounds on the square inch. The heads of the casks are formed by a machine adapted to cut circles of a very large diameter with the utmost precision. By a very simple plan the heads of the metallic casks can be removed without disturbing the hoops which bind them together—a matter of the utmost importance where it is necessary to transfer liquids from one cask to another. It is thought that the metallic casks will ere long come into general use, and almost, if not entirely, supersede the common wooden casks now employed for all purposes.—*English Paper.*

A Substitute for Stereotyping.—Fillmer & Co., of this city, according to the *N. Y. Evening Post*, have adopted, with success, a system of electrotyping moulds taken of type in wax, which is said to have a decided advantage over ordinary stereotyping. Their process is as follows:

Having taken a mould of the type in wax, they put it into a solution of copper, and apply it to a powerful galvanic battery, which causes the copper to be deposited with such accuracy upon the mould as to make a perfect copper-face, which will last much longer than the ordinary metal-face, without costing any more. The process occupies about twelve hours. We understand that the Messrs. Harper employ this process exclusively in their establishment.

Governor Stevens reports a practicable and favorable route across the Rocky Mountains, for the Pacific Railway, and that the success of his expedition has been unprecedented.

Lime.—There is not within the whole State of South Carolina the slightest indication of the presence of lime-stone. The consequence is, that in many of the interior towns of that State *one dollar per bushel is paid for lime.*

The California Almond.—Beautiful specimens of California Almonds have been discovered by that indefatigable naturalist, Dr. Trask, growing wild in the mountains back of San Jose. They are at least half again as large as the imported nut, and are represented to be of delicious flavor. The tree upon which they grew was about 19 feet high, and loaded with fruit. The editor of the *San Francisco Herald* has seen some specimens of a fully ripe almond, and another just bursting through its green hull, with a branch and leaves attached. The discovery that this fruit is indigenous, and grows to great perfection in California, will prove of interest to our agricultural friends, and may induce the many horticulturists who are now setting out gardens and orchards to turn their attention to its cultivation.

New Building Material.—An invention has just been patented, we are told by a London paper, for the adaptation of a preparation of coke and other substances, by which bricks, paving-slabs, door and stair steps, tiles, pipes, blocks, railway-sleepers, and other articles of general use by builders, can be produced with a perfection and a cost which, it is expected by the inventor, will effect a complete revolution in the building trade. The price at which it is proposed to offer the coke-brick to the public is scarcely one third of the clay-brick, while in point of durability it is superior to the best article supplied from the kilns. The manufacture, according to the specification, is effected by means of cast-iron moulds, the interior of which are of the exact dimensions of the common brick; in this mould a certain quantity of duff, or waste coal, powdered coke, charcoal, or cinders, is placed, and being carbonized, the amalgamated materials swell to the exact form that is requisite.

When taken from the mould, it undergoes a finishing process, in which varnish is applied to the end or side, having, while wet, a coating of powdered glass, with an admixture of a mineral coloring-matter sifted over it. The brick is then vitrified, when a beautiful glaze of any required color is produced, and the article is ready for use. During the manufacturing process the fumes are passed through water. The finishing process is only required for particular purposes, as in many instances the coke-brick is equally available without it. The material is rendered fire-proof by the application of the muriate of alumina, and is impervious to atmospheric influence by the nature of its formation.

Hollow Axles are being extensively adopted on the London and North-western Railway. It is found that they are double the strength of a solid axle, and of course are more economical.

NEW BOOKS.

Trichologia Mammalium; or, a Treatise on the Organization, Properties, and Uses of Hair and Wool; together with an essay upon the Raising and Breeding of Sheep. By Peter A. Browne, LL.D., of Philadelphia. *Ducet amor patriæ.* Published under the patronage of the Commonwealth of Pennsylvania. 1853. 4to. pp. 179.

How many of our readers can inform us what the difference is between a hair and a fibre of wool, or between these and feathers? Our learned author has investigated this question, and others kindred to it, and has followed the subject through all its ramifications to the consideration of growth, color, length, size, softness, firmness, strength, &c., with the diseases to which each is subject, and the growth of several different animals, among which are the sheep, goats of different countries, camel, lama, alpaca, and others; and these learned and minute discussions are followed by

a treatise on raising and breeding sheep. On these subjects, which were full of difficulties, and which required immense research, great learning is exhibited, and great labor has been expended. It is the only treatise of the kind which embodies so much and of so practical a sort, and at the same time it is in a popular form, so that persons of ordinary intelligence can quite understand it. We purpose, hereafter, to avail ourselves of much of the information here communicated, for the benefit of our readers.

THE PICTORIAL SKETCH-BOOK OF PENNSYLVANIA; or, its Scenery, Internal Improvements, Resources, and Agriculture popularly described. By ELI BOWEN. Illustrated with over two hundred engravings and a colored map. Eighth edition, revised and greatly enlarged. W. White Smith, 195 Chestnut street, Philadelphia. 1854. 8vo. pp. 516.

THIS is a "guide-book" on a large scale, containing off-hand sketches of many of the more interesting localities in the State, with accounts of their history, population, business, scenery, &c., illustrated by numerous and very good engravings, and an excellent map of the State. Many pages are devoted to an elaborate account of the coal-fields of that State, and their iron works. The volume also contains Campbell's "Gertrude of Wyoming;" "Locomotive Sketches, with pen and pencil," of the route from Philadelphia to Pittsburgh; and "Pedestrian Sketches from Sunbury to Lake Erie." The perusal of this work cannot fail to impart a very general knowledge of the condition of the State, in its agriculture, manufactures, resources, and improvements. It is well printed on good paper, and is to be had at the *very* low price of $2.

THE DOVE-COTE; or, the Heart of the Homestead. By the author of "Cap-Sheaf." Boston: John P. Jewett & Co. 1854. pp. 361. 12mo.

THIS volume is highly attractive. It is a series of connected stories, forming one tale. Willie and Adam Brown, and Miss Nancy, and other characters, are finely portrayed, and some of them excite the deepest sympathy; while every part of the story is of excellent moral, without any thing to offend, but with every thing to commend.

SIMILITUDES FROM THE OCEAN AND THE PRAIRIE. By LUCY LARCOM. Boston: John P. Jewett & Co. Cleveland, Ohio: Jewett, Proctor & Worthington. 1854.

THIS little volume consists of sketches rather than stories, inculcating high moral principles. Its execution is admirable.

The following short extract from "Light in the Clouds," illustrates its style and structure:

"Heavy clouds, tinged with a lurid light, slowly arose and hung low along the starry arch above. * * Suddenly a sparkling belt of fire gleamed up along the horizon. Merrily onward danced the flames, prostrating, as they ran, grass, weeds, and faded flowers. The prairie was on fire, and that ominous glare was only its reflection upon the clouds.

"O ye, who look out anxiously upon the broad field of humanity, and believe that ye see horrid clouds, charged with the vengeance of heaven impending over it, watch those clouds in faith rather than in fear.

"The purifying as well as the scathing pens are at work in society," &c.

SKETCHES OF THE IRISH BAR. By the Right Hon. RICHARD LALOR SHEIL, M.P., with Memoir and Notes, by R. SHELTON MACKENZIE, D.C.L. In 2 vols. New-York: Redfield. 1854.

THESE volumes include notices of the most prominent lawyers and statesmen of Ireland for the last half century, and give an insight into the interior life of that nation not imparted by any volumes with which we are acquainted. We have read them with very great interest. The sketches are written in excellent style, and with great discrimination. No man was better qualified for this service than Mr. Sheil, and the interest of the sketches is much increased by the explanatory notes of Mr. Mackenzie. We commend them to all our readers.

LADIES' ALMANAC. 1854. Boston: J. P. Jewett & Co.

THIS is a very neat little volume, full of useful matters. Among other things, it contains notices and portraits of several female authors, fire-side games, a page for memoranda, with each calendar month, &c.

THE FARMER'S GUIDE TO SCIENTIFIC AND PRACTICAL AGRICULTURE. Detailing the Labors of the Farmer in all their Variety, and adapting them to the seasons of the year as they successively occur. By HENRY STEPHENS, F.R.S.E., author of the "Book of the Farm," etc., etc., etc. Assisted by JOHN P. NORTON, M.A., Professor of Scientific Agriculture, in Yale College, New-Haven. In two volumes, with numerous illustrations. New-York: Leonard Scott & Co., 79 Fulton and 54 Gold street.

THIS work is the last revised edition of Stephen's Book of the Farm. It is a reprint of the second edition, and almost wholly rewritten, adopting all the more recent improvements in the practice of agriculture, and suggested by scientific experiment, and making it quite a new book.

It is characterized by transcendent ability, and, beyond a doubt, the best work on the subject of agriculture now before the world.

The position of Mr. Stephens, as editor of the *Journal of Agriculture*, necessarily makes him acquainted and familiar with the literature of agriculture, and with every new light which continental and British discovery has shed upon the theory and practice of agricultural industry. And Prof. Norton, of Yale College, well known to American farmers as a practical and energetic writer, to *Americanize* it, and adapt it to the wants of the farmer in this country, has given an appendix to each part, showing wherein any essential difference exists between the rules necessary to be observed by farmers of this country and Great Britain, pointing out in a clear and concise manner when such difference should be regarded, and adds from his own experience and observations a large amount of useful information.

Altogether, it is eminently practical and agreeably enthusiastic and interesting in its style, and we recommend it not only to the practical farmer, but to the general reader, as a book of reference, and to societies for distribution; and to all libraries, as a work that should not be wanting.

N.B.—The work comprises two volumes, royal octavo, neatly bound in various styles, containing 1600 pages, fourteen steel, and about five hundred wood engravings. It is beautifully printed on thick, white paper, the British portion of it from the stereotype plates imported for that purpose. Price for the two volumes, muslin, one copy, $6; four copies, $18; leather, one copy, $6.50; four copies, $20.

The work will be sent by mail, free of postage, to any post-office not more than three thousand miles from New-York, for $1 extra; over three thousand miles, for $2 extra.

NEW MUSIC.

OLIVER DITSON, of Washington street, Boston, has recently published some most excellent pieces of music. Among these

Don Giovanni, in a quarto volume, for a piano-forte solo, in an elegant volume, with excellent type, in the same style with *Norma*, noticed in a recent number of our journal. It is a choice gem for the amateur and the professor.

Leaves from my Musical Diary. By Adolph Kulblock. Consisting of three pieces: 1. A Melody; 2. A Song without Words; 3. Remembrance of Germany.

L'Art du Chant, appliqué au piano. 4to. De l'Opera I. Puritani. By Thalberg.

Among the songs are the following:

Reply to Lilly Dale. With chorus. By C. C. Converse.

First Gift Ballad. By Thos. Baker.

Live with a Playful Heart. A Bohemian melody. By A. F. Müller.

Sweet is a Summer's Night. By S. Nelson.

She Shines before me like a Star. From the Opera of Charles II. By G. A. Macfarren.

The Mariner Boy. By A. S. Thompson.

Songs of the Flowers—The Rose, Forget-me-Not, Poppy, Lily, Snowdrop, and a Daisy. By C. W. Glover.
We have seen only the third, the song of the Poppy.
WALTZES.—Favorite Waltz. From Lucrezia Borgia. Admirably arranged by Burgomaster.
Cottager's Waltz. By Mrs. L. L. Deming.
Jullien's Library Valz d'Amour. Arranged by Thos. Baker.
POLKAS.—The Eclipse Polka and Post Sleigh Polka.

List of Patents Issued,

FROM JAN. 3 TO FEB. 7.

David Clark, of Philadelphia, Pa., for improvement in oil-cups for steam engines.

Lucian A. Brown and Jeremiah W. Brown, of Hartford, Ct., for improved press for veneering.

Leonard Campbell, of Columbus, Miss., for improvement in cotton-gins.

Daniel S. Darling, of Brooklyn, N. Y., for improvement in preventing dust from entering railroad-cars.

D. M. Cummings, of North Enfield, Me., for improvement in machinery for mortising frames of window-blinds.

Charles W. Fillmore, of Coral, Ill., for improvement in clamps for holding steel plates while being hardened and tempered.

F. C. Goffin, of New-York, N. Y., for improvement in attaching cross-bar fastenings to vault and safe-doors.

Benj. D. Gullett, of Aberdeen, Miss., for improvement in cotton-gins.

H. Halvorson, of Hartford, Ct., for improvement in machines for pegging boots and shoes.

Jas. J. Johnston, of Alleghany city, Pa., for improvement in heaters for smoothing-irons.

John Johnston, of Alleghany city, Pa., for improvement in self-heating smoothing-irons.

Ebenezer A. Lester, of Boston, Mass., for improvement in machines for squeezing and compressing metallic bodies.

Harry H. Matteson, of Buffalo, N. Y., for improvement in flexible cordage.

Wm. G. Merrell, of Auburn, N. Y., for machine for cutting ellipses.

Henry E. Pierce, of Charlemont, Mass., for machine for matting the ends of blocks, in making matches.

David Pierce, of Woodstock, Vt., for improved gold separator.

J. P. Spofford, of Brockett's Bridge, N. Y., for improvement in saw-gummers.

Caleb C. Walworth, of Boston, Mass., for improved float-valve for discharging condensed water.

S. D. Wilson, of Reading, Pa., for improvement in valves and valve-seats of steam-engines.

Jno. H. Barth, of Indianapolis, Ind., for improvement in bedsteads.

Harvey Brewer, of East Boston, Mass., for improvement in torch-lamps.

Jno. Kedzie, of Rochester, N. Y., for improvement in filters.

J. W. McGaffey, of Philadelphia, Pa., for improved mortising-chisel.

H. B. Smith, of Lowell, Mass., for improvement in mortising-machines.

Jas. Swain, of Philadelphia, Pa., for magnetic toy, called the Magnetic Cupid.

Thos. L. Jones, of Poughkeepsie, N. Y., assignor (through Horace Dresser) to James B. Jones, of New-York, for improvement in feathering paddle-wheels.

Perry G. Bates, of Waterbury, Ct., for spiral or worm-joint hinge.

F. Davison, of Liberty, Va., for improvement in saliva pumps.

Jno. Jas. Greenough, of New-York, N. Y., for improvement in machines for pegging boots and shoes.

D. T. Hitchcock, of Warren, Mass., for improvement in diaphragm pumps.

E. C. Hyatt and Christopher Meyer, of Milltown, N. J., for improvement in the manufacture of boot and shoe soles, of gutta-percha or India-rubber.

Abraham McInturff, of Liberty, Va., for improvement in machines for mincing meat.

Loriston G. Merrell, of New-Bedford, Pa., for improvement in frill-machines.

Thos. J. Sloan, of New-York, N. Y., for improvement in apparatus for indicating the action of the feed-pump to steam-boilers.

C. W. Stimpson, of Cleveland, Ohio, for improved photographic plate-vises.

Ira Warren, of Boston, Mass., for improvement in tonsil instruments.

George W. Griswold, of Carbondale, Pa., for improvement in amputating apparatus.

Charles T. P. Ware, of New-York, N. Y., assignor to D. C. Morehead, of same place, for improvement in clasps.

Lewis B. White, of Moscow, N. Y., for improvement in trusses.

Calvin Adams, of Pittsburgh, Pa., for improved copying-press.

Romeo and Albert F. Andrews, of Avon, Conn., for improvement in wood saws.

Lucien B. Batcheller, of Arlington, Vt., for improvement in railroad-car brakes.

Charles P. Bailey, of Zanesville, Ohio, for improvement in dumping cars.

Enoch Burt, of Manchester, Conn., for improvement in fancy check-looms.

Silas Constant, of Brooklyn, N. Y., for improvement in rosin oil lamps.

Wm. Cunningham, of Holliday's Cove, Va., for improvement in washing-machines.

J. H. Dennis, of Boston, Mass., for improvement in bee-hives.

Spencer D. Driggs, of Detroit, Mich., for improved attachment to piano-fortes.

Charles R. Harvey, of New-York, for improvement in air-heating furnaces.

Dennis G. Littlefield, of Lowell, Mass., for improvement in stoves.

George Nelson, of Boston, Mass., for improvement in ventilating railroad-cars.

Thomas Prosser, of New-York, N. Y., for improvement in the manufacture of hollow slabs and flanged metallic plates.

Harvey Trumbull, of Central College, Ohio, for improvement in the feed apparatus of straw-cutters.

Peter, Wellington S., & Jerome J. Hench, of Port Royal, Pa., for improvement in mills for grinding sumac.

James H. Jennings and Thomas Brierly, of Clayville, N. Y., for improvement in machinery for fulling cloth.

Joseph Marks, of Boston, Mass., for improvement in piston-valves and steam-passages in cylindrical steam-boilers.

James Robinson, of West Hebron, N. Y., fo improvement in threshers and cleaners of grain.

Alexander Hall, of Lloydsville, Ohio, for improvement in piano-fortes.

Daniel Haight, Jr., of Clinton, N. Y., for improvement in attaching shafts to wagons.

Wm. Overend, of Cincinnati, Ohio, for machine for wetting paper.

Aaron Palmer, of Brockport, N. Y., and Stephen G. Williams, of Janesville, Wis., for improvement in grain-harvesters.

Jacob Reese, of Sharon, Pa., for improvement in rolling axles and shafts.

Charles R. Soule, of Fairfield, Vt., for improvement in threshers and separators of grain.

Moses C. Stiles and Tristram S Lewis, of Hollis, Me., for improved machine for making window-blinds.

Carl E. Werner, of Newcastle, Ill., for improvement in distilling apparatus.

Jacob E. Brown and Stephen S. Bortlett, of Woonsocket, R. I., for improved mortising-machine.

Henry F. Anthony, of New-York, N. Y., for improvement in presses for making miniature cases.

Philander H. Benedict, of Syracuse, N. Y., for improved daguerrotype plate-holder.

Enos Boughton, of East Bloomfield, N. Y., for improvement in cultivators.

William Boyd, of Garrettsville, Ohio, for improved mode of fixing likenesses in monuments.

Wm. Cleveland, of Orange, N. Y., for improvement in fountain pens.

William O. Davis, of Pittsburgh, Pa., for improvement in presses for moulding glass.

Samuel L. Denney, of Christiana, Pa., for improvement in divided railroad-axles.

Cyrus J. Fay, of North Lincoln, Me., for improvement in cotton presses.

Eleazer W. Johnson, of Perth Amboy, N. J., for improvement in saw-mills.

Harry Leach, of Boston, Mass., for improvement in propellers.

Thomas Longking, of Brooklyn, N. Y., for improved apparatus for cleaning, &c., buffing daguerreotype plates.

Harvey Lull, of South Coventry, Conn., assignor to Harvey Lull, aforesaid, and Richard Porter, of Wheeling, Va., for improvement in shutter hinges.

T. O. Cutler, of Jersey City, N. J., for improvement in quartz-crushers.

James McCarty, of Reading, Pa., for improvement in rollers for scarfing the edges of skelps for lap-welded tubes.

Charles G. Page, of Washington, D. C., for improvement in electro-magnetic engines.

William Palmer, of New-York, N. Y., for improvement in water-gauges for steam-boilers.

John L. L. Morris, of Reading, Pa., for improvements in steam hammers.

Ebenezer G. Pomeroy, of Pittsburgh, Pa., for improvement in manufacture of sheet-iron.

Benjamin Underwood, of Brooklyn, N. Y., for improvement in the construction of printing blocks.

Frederic J. Thring, of New-York, N. Y., for improvement in carpet-bags.

Edward Town, of Jersey City, N. J., for improved machines for paging books.

Peter L. Weymer, of Reading, Pa., for improvement in steam hammers.

Isaac L. Dickinson, of Richmond, Ind., for improvement in churns.

Le Roy S. White, of Chicopee, Mass, for improvement in furniture-casters.

Ebenezer Barrows, of New-York, N. Y., for improvements in rotary engines.

A. Merritt Asay, of Philadelphia, Pa., for improvement in dental chairs.

Edward Bancroft and Wm. Sellers, of Philadelphia, Pa., for improvement in turning-lathes.

John and Wm. McAdams, of Boston, Mass., for improvement in machines for ruling paper.

Jacob Reese, of Sharon, Pa., for improvement in machines for making nuts.

Michael Shimer, of Union Township, Pa., for improvement in winnowers.

Josiah Turner and W. C. Stuvoc, of Sunapee, N. H., for improvement in winnowers.

John M. Bachelder, of Cambridge, Mass., and M. C. Farmer, of Salem, Mass., for improvement in the mode of making battery connection with an electro-magnetic coil on the traveling carriage of a telegraphic register.

Thomas Blanchard, of Boston, Mass., for improved machine for polishing plough-handles and other articles.

George Edward Burt, of Westford, Mass., assignor to George Edward Burt and David C. Butterfield, both of Westford, aforesaid, for improvement in machines for cleaning and assorting bristles.

Dexter H. Chamberlain, of Boston, Mass., for improvement in bit or drill-stocks.

Dexter H. Chamberlain, of Boston, Mass., for improvement in tool-holders.

John J. Crooke, of New-York, N. Y., for improvement in the manufacture of tin-foil or sheets.

Lewis S. Davis, of New-Paris, Ohio, for improvement in blocks for horse collars.

F. O. Deschamps, of Philadelphia, Pa., for improvement in omnibus registers.

John S. Hall, of Manchester, Pa., for improvement in ploughs.

J. B. Hayden, of Easton, N. Y., for improvement in metallic hubs.

Ansel Merrell, of New-Bedford, Pa., assignor to Ansel Merrell and John M. Irvine, of Sharon, Pa., for improved machine for dressing spokes.

Reuben Knecht, of Easton, Pa., for improved daguerreotype plate-holder.

Julius E. Merriman, of Meriden, Conn., for improvement in sewing birds.

Clark D. Page, of Rochester, N. Y., for improvement in lime kilns.

CIRCULAR.

The Subscriber requests the attention of Committees, Teachers, and others interested in Schools, to the

IMPROVED DESKS AND CHAIRS,

which he believes will be found well adapted to the purpose for which they are designed, being of the most improved patterns, and for strength and beauty unequalled. The Chair being secured to the floor by an Iron pedestal, as represented in the annexed engraving, and presents the least obstruction in sweeping the room, the back of the Chair continues down to the floor, which greatly diminishes the danger of giving at the part usually the weakest.

The desks are made of Cherry and hard wood, put together in the neatest and most substantial manner, and mounted on ornamental Iron standards, which brace in both directions.

The sizes are graduated to the various ages of pupils, from the child of four years to the student at college.

ALSO, TEACHERS' DESKS AND CHAIRS,

Tables, Chairs with Book Baskets attached for Infant Scholars,

BOOK CASES, DRAFT BOARDS, ETC.

The facilities for furnishing the best make of furniture are worthy of consideration by those capable of appreciating the skill and ingenuity in their manufacture.

Choice and well seasoned materials, steam power, and the most ingenious mechanical contrivances employed, together with workmen experienced in fitting up school rooms, enable him to produce work well calculated to give entire satisfaction.

The high school desk with velvet or cloth tops, with portfolios attached, and various other styles, furnished with promptness and despatch.

R. PATON,

24 Grove Street, New-York.

N. B.—Plans of School Rooms will be furnished, showing the number of Desks required, by sending the size of room.

THE UNITED STATES JOURNAL

is the largest Quarto published in America, and contains more reading matter than any two dollar Magazine. Price twenty-five cents per annum.

About a year ago, we promised to bestow upon our subscribers a premium of 1,000 dollars, as soon as their number should reach 100,000. We have also offered premiums to the amount of 300 dollars, to be divided among 25 persons, sending us the largest number of subscribers. We hereby announce that all the above premiums will be awarded on the 25th day of March, 1854. We are also offering other inducements to subscribers and Agents.

Sample copies containing particulars, sent to order, free of charge.

Publishers of papers, giving this one insertion, will be placed on our subscription list for the year.

A. JONES & CO.,
1, 3, and 5 Spruce Street, New York. Feb. tf.

NEW-YORK AGRICULTURAL WAREHOUSE.

The largest establishment of the kind in the Union. Occupying three large stores, the subscriber is enabled to keep constantly on hand Ploughs, of a great variety of patterns; Harrows, Rollers, Corn Planters, and Seed Sowers, Cultivators, Reaping and Mowing Machines, Fanning Mills, Horse-powers, Threshers, Waggons, Carts, Hay and other Presses, Grain Mills, Shovels, Spades, Scythes, Rakes, Hoes, and all other Farming Implements in use in the United States.

HORTICULTURAL IMPLEMENTS.—Pruning Axes, Hatchets, Saws, Chisels, Knives and Shears, Lawn and Garden Rakes, Scufflers, Spades, Forks and Hoes, Garden Engines, Syringes and Water Pots, Seed-Sowers of various patterns, Hand-ploughs and Cultivators, Transplanting Trowels, Grafting Tools, &c., &c.

SEEDS FOR THE FIELD AND GARDEN.—Such as improved Winter and Spring Wheat, Rye, Barley, Oats, Corn, Beans, Peas, Turnip, Onion, Cabbage, Beet, Carrot, Parsnip, Clover and Grass Seeds, Improved varieties of Potatoes, &c., &c. These are warranted fresh and superior of their kind.

FLOWER SEEDS of the choicest sorts.

PERUVIAN GUANO, of the best kind, imported direct from the Chinchi Islands.

SUPER PHOSPHATE OF LIME, No. 1, manufactured in the best manner expressly for me.

A MANUFACTORY OF AGRICULTURAL IMPLEMENTS is also carried on by the subscriber, where a great variety of the most improved kinds are made expressly for my own sales.

A *Catalogue* of the above Implements, &c., of over 100 pages, illustrated with cuts, will be forwarded by mail, when requested, *post-paid*.

Subscriptions to the AMERICAN AGRICULTURIST received. Price, One Dollar per volume.

Feb. 3t. R. L. ALLEN, 189 & 191 Water st., N.Y.

NEW YORK AND ERIE RAILROAD.

Passenger Trains leave pier, foot of Duane St., as follows, viz.:

Day Express, at 7 A. M., for Dunkirk and Buffalo.

Mail, at 8 15 A. M., for Dunkirk, Buffalo, and intermediate stations. This train will remain over night at Elmira, and proceed the next morning.

Way Express, at 12 30 P. M. for Dunkirk, and intermediate stations.

Way, at 4 P. M., for Otisville, and all intermediate stations.

Night Express, at 5 P. M., for Dunkirk and Buffalo.

Emigrant, at 5 P. M., for Dunkirk and intermediate stations.

On SUNDAY, only one Express Train, at 5 P. M.

These Express Trains connect at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Toledo, Detroit, Chicago, &c.

CHAS. MINOT, Superintendent.

HUDSON RIVER RAILROAD.

FALL ARRANGEMENT.

Trains leave Chambers St. daily, for Albany and Troy, New York, to and from Albany and Troy—On and after Monday, Dec. 5, 1853, the Trains will run as follows:

Express Train, 7 A. M., through in four hours, connecting with Northern and Western Trains.

Mail Train, 9 A. M. Through Way Trains, 12 M. and 3 P. M.

Express Trains, 5 P. M. Accommodation Train, 6 P.M.

For Tarrytown, 10½ P. M.

For Poughkeepsie: Way Passenger Trains at 7 10 A. M. and 4 P. M., from Chambers St.; and Way, Freight and Passenger Train, at 10 A. M., from Chambers St.

For Peekskill, at 5½ P. M.

The Tarrytown, Peekskill and Poughkeepsie Trains stop at all the Way Stations.

Passengers taken at Chambers, Canal, Christopher, 13th, and 31st Sts.

SUNDAY MAIL TRAINS, at 3 40 P.M. from Canal St. for Albany, stopping at all Way Stations.

EDMUND FRENCH, Superintendent.

S. R. PARKHURST'S
PATENT BURRING MACHINES.

The subscriber, who is the inventor of the

BURRING MACHINES

which are attached to Carding Machines, informs

Woollen and Cotton Manufacturers,

that he has increased facilities for manufacturing superior Burring Machines, and likewise for Second Breakers. In addition to which, manufacturers who prefer the metal cylinder, invented by J. L. Tuttle, may be supplied with them at short notice.

The subscriber is giving his personal attention to the manufacture of these Machines, which he has not done heretofore.

The legal right for building these Machines is in the subscriber.

Orders addressed to HAYES & REDFIELD, No. 90 Beaver Street, will meet with prompt attention.

S. R. PARKHURST.
New York, January 17, 1854. Feb. tf.

FERTILIZERS.

PERUVIAN GUANO,
SUPERPHOSPHATE OF LIME,
GROUND PLASTER,
PULVERIZED CHARCOAL,
POTASH SCRAPINGS,
POUDRETTE.

FOR SALE, AT THE STATE AGRICULTURAL WAREHOUSE, No. 25 CLIFF STREET, NEW YORK.

Feb. 3m *LONGETT & GRIFFING.*

AMERICAN RAILROAD JOURNAL.

Steam Navigation, Commerce, Mining and Manufactures.

***ESTABLISHED* 1831.**

HENRY V. POOR, EDITOR.

Published at 9 Spruce Street, N. Y. at $5.00 per annum in advance.

BY JOHN H. SCHULTZ & CO.

This Journal, which has attained its twenty-second year, is now taken by nearly every Railway Company and Engineer of repute in the United States, as well as by those Manufacturers who furnish equipments for the operation of Railways, and Contractors who are permanently engaged in the construction of public works. It has also an extensive circulation among the leading capitalists of Great Britain, France and Germany, who invest in American Securities, and by the same class of people and their agents, in this country. That it was started at an early period in railway history, and has risen, entirely dependent upon its own resources, to be considered as an *authority*, upon railway matters, in this and other countries, which is looked to by capitalists for a guide in their investments in railway securities—is the best possible evidence of the ability and disinterestedness with which it has been conducted, and the reliability which has characterized its information. It is daily receiving large accessions to its subscription list, and its advertising columns are resorted to by all inventors of improvements in railway equipments, who wish them introduced to the notice of the public in a way to command the attention of those peculiarly interested in their immediate adoption.

The American Railroad Journal

Is devoted principally to the dissemination of FACTS connected with Railways generally, and their proper construction, equipment and operation; also, to the discussion of the merits of newly-proposed lines, and the management of old ones, as set forth by their reports and exhibits.

The Department of Machinery and Mechanical Engineering

is under the direction of MR. ZERAH COLBURN, the well known author of the only American work on the Locomotive, and one of the best practical mechanics in the United States.

The Law Department

Will continue under the direction of MR. FRANCIS O. DORR, whose management of it during the last year has commanded universal approval. In the

General Department of Railway and Commercial Intelligence,

MR. HENRY V. POOR, the principal Editor, will have the aid of competent and intelligent assistants to render the Journal the most reliable medium of intelligence, on all subjects of which it treats, to all who have occasion to consult its pages. It will be seen that the AMERICAN RAILROAD JOURNAL commences the year 1854 with offering more attractions than it has ever possessed heretofore. Its STOCK LIST, which is now worth the price of subscription, will be enlarged to include bonds, &c., of all the roads in the country.

All communications should be addressed to the Editor,

H. V. POOR,

9 Spruce Street, New York.

AGRICULTURAL WAREHOUSE.

AWARDED FIRST PREMIUM

BY THE

AMERICAN INSTITUTE

In 1846—1848—1849—1850—1852 and 1853,

193 *FRONT STREET, N. Y.*

WHERE may be found a complete assortment of Agricultural Implements, embracing all the new and most approved styles. Ploughs, of every description, among which are

Moore's Celebrated Premium,"

"EAGLE," "PEACOCK," HALL'S STEEL AND BAR-SHARE, "MINOR, HORTON & Co's," "DIAMOND PATTERN," "CENTRE DRAUGHT," &c., &c.

STRAW CUTTERS,—Patent Self Sharpening Straw Cutters, the best article in use; also "Hovey's," "Sinclair's," Greene's," and a variety of other Cutters in general use.

Corn Sheller, Fanning Mills, Horse Powers, Threshing Machines, Corn and Cob Mills, Rakes, Hoes, Shovels, Spades, Hay Forks, Manure Forks, &c., &c.

GUANO, BONE DUST, PLASTER, SUPER PHOSPHATE OF LIME, &c.

Copper, Brass and Iron Wire Cloth.

All of which will be warranted to be of the best quality and sold at the lowest prices.

JOHN MOORE*, 193 *Front Street.

AMERICAN POLYTECHNIC JOURNAL

OF THE

INDUSTRIAL ARTS,

AND BULLETIN OF THE PATENT OFFICE.

ILLUSTRATED.

This Journal, comprehending *many arts* as its name (Polytechnic) implies, has just completed its first year. In it are to be found Statistics and Essays upon some of the most important industrial interests of the country; the great staples of Cotton and Sugar have received a share of attention, and the manufactures of Iron and Wood have been duly noticed. That interesting subject of Electro-Mechanics has been fully discussed, and a digest of the entire decisions of the Supreme Court in Patent cases reported, as well as discussions upon Patent Law. The Patents of the current year have been fully reported and illustrated by engraved diagrams, forming a complete *exposé* of the Patent Office for the past year.

The coming year the above subjects will receive additional attention; besides, which reports will be published upon the industry of Europe, for which purpose one of the editors has taken up his residence in Paris. We shall be able, therefore, to give the earliest accounts in all matters pertaining to the Arts and Industry of the World.

This work contains, the present year, the enormous amount of 840 illustrations; and arrangements have been made further to increase its usefulness and add to its value.

It is believed that the American Polytechnic Journal is second to no other work of the kind published, for reliable information and authority on mechanical points. It is offered at the low price of THREE DOLLARS per annum to subscribers, which is cheaper than any other work of equal magnitude, of a scientific character, in the world.

An early subscription for the coming year is solicited, in order to regulate the size of the edition, and to ensure obtaining the first numbers. Copies of the last year can had at the publication office, No. 6 Wall Street, for two dollars, or bound in two volumes for three dollars and fifty cents. To Clubs and canvassers a liberal discount will be made. All orders should be addressed to

J. J. GREENOUGH,

Jan. 3t **No. 6 Wall St., N. Y.**

THE NEW YORK MUSICAL REVIEW

AND

CHORAL ADVOCATE,

Is the cheapest and best Musical Paper in the world. This Journal, (which has heretofore been published monthly) commences its fifth year in January next, and thenceforward will be published every two weeks—on every other Thursday; thereby giving more than twice as much matter without any increase in price: Each number contains sixteen quarto pages, four of which are new music, consisting of Glees, Hymn Tunes, Chants, Anthems, Dedication and Holiday pieces, and, in short, every variety of music adapted to purposes of religious worship, to public occasions and to the home circle: all of which will be of a practical character and such as can be sung by persons of ordinary musical attainments. In the editorial department of the REVIEW are engaged (in addition to Mr. Cady, the former editor,) gentlemen of the highest talent and ripest musical experience, among whom are GEORGE F. ROOT, WM. B. BRADBURY, THOMAS HASTINGS, and LOWELL MASON; and its circle of correspondence, home and foreign, is complete. The REVIEW will also be a regular medium for the announcement of new musical publications by all the leading publishing houses in the Union. The subscription list of this paper is now larger than that of any similar journal in the world, and the new arrangements, rendering it the cheapest as well (it is hoped) the most valuable musical paper ever publishhd, must largely increase its already unparalleled circulation.

TERMS.—*One dollar per annum, or six copies for five dollars*, always in advance.

☞ The music alone in a volume would cost over three dollars in the usual form: Besides this, there will be an immense amount of musical news, essays, criticism, instruction, &c., &c., *all for only one dollar*. Every one feeling particle of interest in the cause of music will surely subscribe.

Specimen numbers sent on receipt of two letter post stamps. Address, (always post-paid.)

MASON BROTHERS,

Jan. 3 times. 23 PARK ROW, NEW YORK.

WATER WHEELS.

THE Subscribers offer for sale "Jagger's Improved French Turbine Water Wheel," which they believe to be unrivalled. Circulars and Tables relating to the same may be obtained at this office, or will be forwarded to any one desiring them.

JAGGER, TREADWELL & PERRY,

Nov. 13-tf. No. 110 Beaver street, Albany.

ATKINS' SELF-RAKING REAPER.

40 OF these machines were used the last harvest in grass or grain, or both, with almost uniformly good success, in nine different States and Canada.

TWENTY-SIX PREMIUMS,

including TWO *at the Crystal Palace*, (silver and bronze medals,) were awarded it at the autumn exhibitions. I am building only 300, which are being rapidly ordered. Mr. Joseph Hall, Rochester, N. Y., will also build a few.

☞ Early orders necessary to insure a reaper.

Price at Chicago $175—$75 Cash with order, note for $50, payable when reaper works succesfully, and another for $50, payable 1st December next, with interest. $160 cash in advance.—*Warranted to be a good Self-Raking Reaper.*

☞ Agents, properly recommended wanted, throughout the country. Experienced agents preferred. It is important this year to have the machines widely scattered.

Descriptive circulars with cuts, and giving impartially the difficulties as well as the successes of the reaper, mailed to post-paid applications.

J. S. WRIGHT,

"Prairie Farmer" Warehouse, Chicago, Feb. 1

Ammoniated Super-Phosphate of Lime.

This very superior fertilizer, having been fairly tested by farmers and planters, is acknowledged to possess many advantages over Guano. At the same price per ton, and sown in equal quantity, its first effects are equal, if not superior, on most crops, to those of Guano, whilst they last much longer. It may be applied as a top dressing until April with as much benefit as if used at time of sowing. Manufactured and for Sale at the Seed and Agricultural Warehouse of C. B. ROGERS, No. 29 Market Street, Philadelphia. Feb.

THE NEW-YORK JOURNEYMEN

SCALE MAKERS' CO.,

MANUFACTURE EVERY DESCRIPTION OF

Railroad, Warehouse, Hay, Floor, & Portable Platform, Bank, Gold & Counter

SCALES, PATENT BALANCES, &c.

WEIGHTS GRADUATED TO FOREIGN STANDARDS.

Every Scale made by them is correct, and warranted not liable to get out of order.

WAREHOUSE, 216 Pearl-t.

Manufactory, 39 Greene Street, New-York,

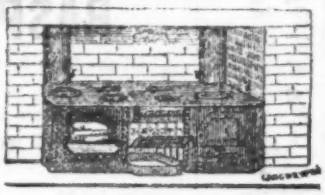
Where every description of Scales may be obtained, and all orders promptly attended to.

☞ **REPAIRING DONE AT SHORT NOTICE.**

Oct. '53. tf. **J. BRYDEN, J. ROBIDOUX.**

THE LADIES' FRIEND.

115 BLEECKER ST. New-York,



One Door from Wooster St.

F. S. MERRITT'S

PATENT COOKING RANGE,

This is the best Range in use for baking and boiling, and it works with half the fuel that others use. A great advantage is gained by passing the draft direct from the fire to the bottom of the oven, and by having an air chamber on the syphon principle between the fire and the oven, which so regulates the heat that it bakes on all sides alike. This Range is heavier than any other of its size, of extra material, and sold only by the manufacturer, 115 BLEECKER STREET, N. Y.

F. S. MERRITT.

Oct. '53.—1 year.

C. G. SHEFFIELD,

URBANA, OHIO,

COMMISSION AGENT,

FOR THE

Sale of Mechanical and Agricultural Machinery,

IN THE WESTERN AND SOUTH-WESTERN STATES.

And such other Patented Articles

As are suited to the wants of the Mississippi Valley.

A business residence of sixteen years in the WESTERN STATES, a very extended acquaintance in all of the principal Western Cities, with the assistance of TRAVELING AGENTS, will offer to Eastern Manufacturers and Patentees unusual facilities through this Agency.

North River Agricultural Warehouse.

No. 53 COURTLANDT STREET, NEW-YORK.

GEORGE H. BARR & CO., invite the attention of Farmers, Planters, and others, to their large and varied assortment of Agricultural Implements, Manures, Seeds, &c., &c., all of which will be furnished at the lowest prices. Their assortment includes

PLOWS—All the improved kinds by the most approved makers.

HORSE POWERS—Of all kinds and sizes with and without Thrashers, &c.

CORN SHELLERS—All the approved kinds, and some of recent introduction.

STRAW CUTTERS—Of all sizes and kinds, for hand and horse-power.

CORN AND COB CRUSHERS—Of all kinds and sizes.

FANNING MILLS—Cultivators, Harrows, Agricultural Barometers, Churns, of all the approved kinds, Rakes Hoes, Forks, and a general assortment of Horticultural and garden tools.

PERUVIAN GUANO.

IMPROVED Super-phosphate of Lime, Bone Dust, Bone Black, Sulphuric Acid, Potash, Poudrette, Plaster of Paris, Charcoal, &c., &c., for sale by

GEO. H. BARR & CO., 53 Courtlandt Street, N. Y.

PATENT Parautoptic Powder Proof

BANK LOCK,

CHAMPION LOCK, Exhibited by A. C. Hobbs, At the World's Fair.

ALSO LOCKS FOR

Safes, Prisons, Stores, Ships, Dwellings,
&c.

A GREAT VARIETY OF

BOLTS & DOOR KNOBS,

SILVER PLATED,
PORCELAIN, MINERAL,
BRASS, GLASS, &c.

ESPAGNEOLETTS

For French Windows.

SAFES,

Iron Doors and Chests, made to order.

SILVER PLATING.

DAY & NEWELL,

589 Broadway,
NEW-YORK.

Clover or Timothy Seed Harvester.

NAPTHA A. WAGNER, inventor and proprietor of the WHEAT HARVESTER, THRESHER and CLEANER, the Clover, Timothy other Grass Seed Harvesters, & the Clover and other Grass Seed Huller and Cleaner, offers to the public this Machine, which is suited, by a change of its parts, to all these kinds of work, and with the aid of one horse and a boy it will harvest from 8 to 12 acres a day, mowing, raking, drawing, breaking, and threshing the heads from the stalks, all at the same time. Warranted, if properly managed.

Rights for States and Counties for sale on favorable terms, lso the right o manufacture the same. Apply by letter to the above, 137 Madiscn Street, N. Y., and Pultney, Steuben County, N. Y.

☞ The Wheat Harvester is also applicable to Barley, Rye, Oats, and Rice. Jan. 54tf

RASPBERRY PLANTS

Of the Pure Red (or North River) Antwerp stock stock FOR SALE.

The Plants are all warranted *pure*, and in a thrifty condition. Orders by mail will be promptly attended to.

NATHANIEL HALLOCK,
Jan. 1. 3t. MILTON, Ulster County, N.Y.

Agency for the Purchase and Sale of Improved Breeds of Animals.

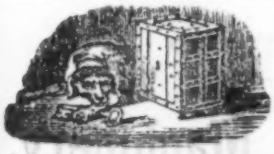
CATTLE, SHEEP, SWINE, POULTRY, &c.,

Purchased to order and carefully shipped to any part of the United States, for which a reasonable commission will be charged. The following Stock can be furnished, viz.:

Thorough bred Short Horn and Grade Cattle,
Do. Ayrshire Cattle,
Do. South Down Sheep,
Swine and Poultry, very fine, of different breeds.
Thorough bred Alderney Cattle,
Do. Devons do.
Do. Cotswold, Oxfordshire or Leicester Sheep,
Also, Fine, well-broken Devon Working Oxen.

All letters post-paid will be promptly attended to. Address,

AARON CLEMENT,
Feb. 54 tf. **South Street, above 9th Street, Philadelphia.**



McFARLAND'S

Improved Fire and Burglar Proof Safes.

THE under signed would respectfully call the attention of the public to the above unequalled safeguard, proof against the devouring element of fire, as well as the most successful burglar.

To Merchants, Jewellers and Bank Directors, we would only say, examine them, and the proofs, and you will be convinced of their superiority over all others manufactured.

Our business is done in a plain straight forward way, without resorting to humbug or large talk.

Below is one of the many testimonials we are daily receiving from all parts of the country, and it speaks for itself. Messrs Pond & Hitchcock's Oil Store was situated directly under the Pearl Street House, and was totally consumed in that great fire of Aug. 23d.

Our depot, where an assortment of all kinds and sizes are constantly on hand, is at 33 MAIDEN LANE,
2 doors from Nassau St., N. Y.
WM. McFARLAND & CO.

NEW YORK, Aug. 23, 1853

Messrs. McFarland & Co.:

GENTS:—It affords us pleasure to inform you that the Fire and Burglar Proof Safe we purchased of you, preserved our books and papers at the disastrous fire of the Pearl St. House, last evening, in the most perfect manner. Although it was covered throughout the fire, with burning Rosin and other oils, and directly under a broken gas pipe, in the most intense heat, it remained true to its name, and its contents, when taken out, were not even scorched, and hardly bore the smell of fire. To any one in want of a superior Safe, a perfect safeguard against fire, we cheerfully recommend your manufacture, having had a personal experience of their excellence.

Yours truly,
POND & HITCHCOCK.

WAREHOUSES.

Boston, Mass., No. 14 Blackstone Street.
Baltimore, Md., No. 7 Commerce Street.
Chicago, Ill., corner South Water and Franklin Sts.
Portland, Oregon, 87 Front Street.
San Francisco, Cal., 27 California Street.
Port Phillip, Australia, 19 West Street.

Agents.—Kendall, Richardson & Co., Bath, Me.; Henry Butler, Bangor, and T. McFarland, Richmond. Me. Jan

A SHEPHERD WANTED.

A man acquainted with raising Sheep, and possessed of some means to invest in that business, can find a profitable situation near Mount Solon, Augusta County Va: A Scotchman with a family preferred. Inquire by letter or otherwise at this office or full particulars obtained by addressing J. McC. as above.
Jan. '54, mos. 2837.

THE BEST WEEKLY PAPER.

SPLENDID ENGRAVINGS.

It is over sixteen years since the projectors of the "Daily Sun" conceived the idea of furnishing the country population with such a weekly newspaper as should suit not only the man of business, but be an acceptable visitor to every family circle. Emphatically

THE "PEOPLE'S PAPER,"

BOUND TO NO TIES OF PARTY, AND STRICTLY INDEPENDENT ON ALL SUBJECTS.

The year 1836 gave birth to the first number of

THE WEEKLY SUN,

The first cheap country newspaper ever seen. Although followed by a host of imitators, its course has been onward, until the present time; it has a subscription list of many thousand subscribers. The elements of its success have been the regularity with which is mailed, and the entire freedom of its columns from lengthy advertisements, long continuous tales, or any objectionable matter. Backed, as it is, by all the immense resources of the Sun Establishment, whose

Monster Steam Presses

Chronicle the events of life to nearly one hundred thousand daily readers, much of the talent, labor and outlay to obtain the most reliable intelligence, is thrown into the weekly issue; thus insuring not only the occurrences of every part of the world, as they are collected by the united aid of steam, lightning, and private observations but a mass of

Original Correspondence, Good Tales, Inventions, Prices Current, Markets, Recipes, &c., &c.

Unobtainable by less extensive opportunities. Encouraged by past successes, the Proprietor commences the New Year—1854—by giving in each number

PICTORIAL EMBELLISHMENTS,

Executed in the first style of Art, while the subscription price—payable in advance—will be but

ONE DOLLAR A YEAR.

Or where more than one copy is ordered the following are the

CLUB RATES.

Club of 6 Copies,	$ 5 00
Club of 13 Copies,	10 00
Club of 20 Copies,	15 00

"The Weekly Sun" for 1854, will most emphatically prove an

ILLUSTRATED NEWS OF THE WORLD

Invaluable for amusement, reference and instruction. All subscriptions should be sent by mail direct to the Publisher, as no travelling agents are employed.

Any person may obtain the paper by simply enclosing one dollar in a letter, writing in it his name and the name of the nearest Post Office, and of the County and State where he resides, and directing it to "MOSES S. BEACH, SUN OFFICE, NEW YORK."

Specimen copies sent gratis to Postmasters when desired.

MOSES S. BEACH, Publisher.

Sole Proprietor of the Sun Establishment, cor. Nassau & Fulton Sts., N. Y.

WHEELER & WILSON MANUFACTURING COMPANY'S

SEWING MACHINE,

MANUFACTURED AT WATERTOWN, CONN.,

OFFICE, 265 BROADWAY, NEW YORK.

A. B. WILSON'S PATENT,
(*August* 12, 1851,)
AND JUNE 15, 1852.

AGENCIES AT
63 COURT ST., BOSTON,
172 CHESTNUT ST., PHILAD'PHIA,
IRON HALL, WASHINGTON.

These Machines have been in successful operation, in the hands of manufacturers and families, for the past two years, and in every case have given universal satisfaction. The Proprietors are now prepared to offer them to the public, with that increased confidence in their merits which the united testimony of their numerous customers has strengthened and confirmed.

These Machines are entirely different from any other, the principles on which they are made being *exclusively* our own.

Among the advantages of this Machine over any others are the following:—

1. The simplicity of its construction, and the ease with which it can be kept in the most perfect order.

2. The perfect manner with which the operator is enabled to stitch and sew the various kinds of work, from the finest linen to the coarsest cloths.

3. It particularly excels in the rapidity with which work can be executed; in that respect it has no equal.

4. The little *power* required to propel them, enabling even those of the most delicate constitution to use them without injury to their health.

We are now manufacturing a larger sized Machine, more particularly adapted to the sewing of leather, canvas bags, and the heavier kinds of cloths.

An examination of our Machines is respectfully solicited at our Office, 265 Broadway.

Feb. 1y.

HIGHLAND NURSERIES, NEWBURGH, N. Y.

A. SAUL & Co.

Have the pleasure to announce to their patron,s and the public generally, that their stock of

FRUIT AND ORNAMENTAL TREES, SHRUBS, &C.

which they offer for sale the coming season, is of the *very best* quality, and embraces everything in their line that can be procured in the trade.

Dealers and Planters of trees on a large scale will be treated with on as liberal terms as can be done by any establishment *of reputation* in the country. They flatter themselves, that for correctness of nomenclature of fruits (which is a serious consideration to planters), that their stock is as nearly perfect as can be; having all been propagated on their own grounds, from *undoubted sources*, under the personal supervision of Mr. Saul.

They have propagated in large quantities all the leading and standard varieties which are proved to be the best adapted for general cultivation, especially those recommended by the American Pomological Congress, at its several sessions, as well as all novelties and kinds particularly suited to certain sections and localities of the Union and the Canadas.

Their stock of Pear Trees is the largest they have ever had to offer for sale, and among the largest in the country, and consists of over 50,000 saleable trees.

Their stock of Apple Trees is very large, as well as Plums, Cherries, Apricots, Peaches, Nectarines, and Quinces; also Grape Vines, Gooseberry, Currant, Raspberry and Strawberry Plants, in great variety, &c., &c.

Also, Pears on Quince, Cherry on Mahaleb, and Apple on Paradise Stocks, for Pyramids and Dwarfs, for garden culture; and of which there is a choice assortment of the kinds that succeed best on those stocks.

DECIDUOUS AND EVERGREEN ORNAMENTAL TREES AND SHRUBS.

100,000 Deciduous and Evergreen Ornamental Trees, embracing all the well-known kinds suitable for street planting, of extra size; such as Sugar and Silver Maple, Chinese Alanthus, Horse Chestnut, Catalpa, European and American Ash, Upright lentiscus-leaved Ash, Upright Gold-barked Ash, Flowering Ash, Three-thorned Acacia, Kentucky Coffee, Silver Abele Tree, American and European Bass-wood or Linden, American and European Elm, in several varieties, &c. Also the more rare and select, as well as well-known kinds suitable for Arboretums, Lawn and Door-yard planting, &c.; such as Deodar and Lebanon Cedars, Araucaria or Chilian Pine, Cryptomeria Japonica; the different varieties of Pines, Firs, Spruces, Arbor-vitæs, &c.

WEEPING TREES.

New Weeping Ash, (fraxinus lentiscifolia pendula,) the old Weeping Ash, Gold-barked Weeping Ash, Japanese Sophora, Weeping Elms (of sorts,) Umbrella-headed Locust, Weeping Mountain Ash, Weeping Willow, Large Weeping Cherry, Weeping Birch, Weeping Beech, &c., &c.; together with every variety of rare Maple, native and foreign; Double Flowering Peach, Almond, and Cherry; Chestnuts, Spanish and American; Purple and Copper Beech, Judas Tree, Larch, Gum Tree, Tulip Tree, Osage Orange, Paulownia, Mountain Ash (American and European) Magnolias of sorts, with many other things—including some 200 varieties of Shrubs, Vines, Climbing and Garden Roses in great varieties, such as Hybrid Perpetuals or Romantantes, Hybrid China, Hybrid Bourbon, Hybrid Damask, Hybrid Provence, Bourbon, Tea, China, Noisette, and Prairie Roses; also, Herbaceous Plants, in great variety, &c., &c.; for which see Catalogue, a new edition of which is just issued, and will be forwarded to all post-paid applicants.

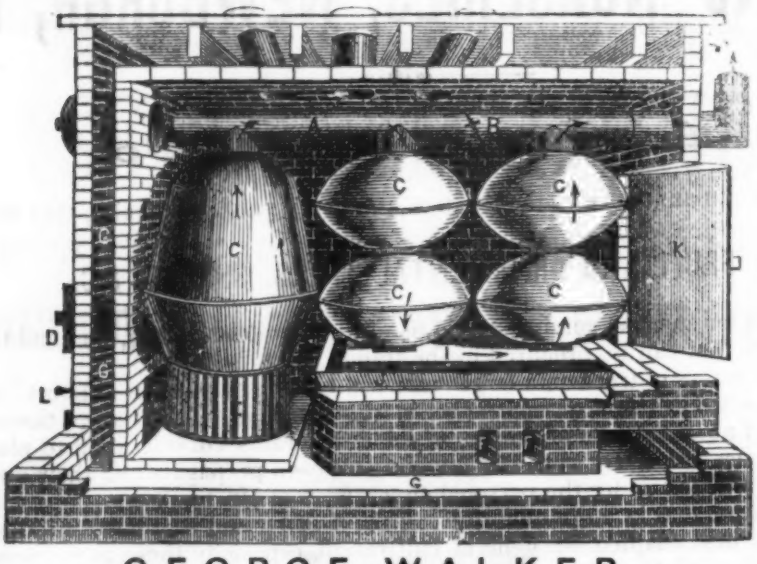
HEDGE PLANTS.

500,000 strong two year old Osage Orange Plants, in three different sizes, at $10, $8, and $6 per 1000. Also Buckthorn Plants at $8 per 1000, and Arbor Vitre for screens, &c.

HIGHLAND NURSERIES, Newburgh, N. Y.

February 20th, 1854. Mch. 2t

Walker's Patent



Warming Furnace.

GEORGE WALKER,

WARMING AND VENTILATING WAREHOUSE,

No. 89½ LEONARD STREET,

NEAR BROADWAY, N. Y.

PATENT MIRROR MANTELS,

Emerson's Patent Corresponding Ship Ventilators,

EMERSON'S PATENT HOUSE AND CAR VENTILATORS,

POND'S IMPROVED COOKING RANGE. Dec. 1y.

FALL OF 1853.

GREAT CENTRAL THROUGH LINE TO THE WEST!

☞ CARRYING THE GREAT WESTERN MAIL.

BALTIMORE AND OHIO RAILROAD,

From Baltimore to Wheeling, through in 18 hours!

Tunnels all completed, and Road in fine order.

THE EXPRESS MAIL TRAIN leaves Baltimore at 7 P. M. daily, on arrival of the 9 A. M. Train from New York, and proceeds directly through,—or Passengers leaving New York at 5 30 P. M., and Baltimore at 8 A. M., may lodge in Cumberland, and proceed thence in the morning to *Wheeling, where they arrive at* 1 *P. M.*

Baggage checked through to Wheeling, and NO CHARGE *for Transfer of Passengers or Baggage.*

☞ Passengers will not fail to observe that this is THE CHEAPEST, as well as one of the most pleasant routes to the West.

FARE BY THROUGH TICKET,

BY RIVER FROM WHEELING, WITH THE RIGHT TO LIE OVER ON THE ROUTE.

From New York to Cincinnati	- -	$13 50	To Louisville,	- - -	$14 50
Philadelphia to	do. - - -	11 00	To	do. - - - -	12 00
Baltimore to	do. - - -	10 00	To	do. - - - -	11 00
Washington to	do. - - -	11 00	To	do. - - - -	12 00

With an additional charge on board of the Boats for *Meals and State Rooms* of only $2 to Cincinnati—$3 to Louisville.

BY LAND ROUTE FROM WHEELING, &c.

From New York to Columbus,	- - -	$15 62	To Cincinnati,	- - -	$18 62
Philadelphia to	do. - - -	13 30	To	do. - - - -	16 30
Baltimore to	do. - - -	12 30	To	do. - - - -	15 00
Washington to	do. - - -	13 00	To	do. - - - -	16 00

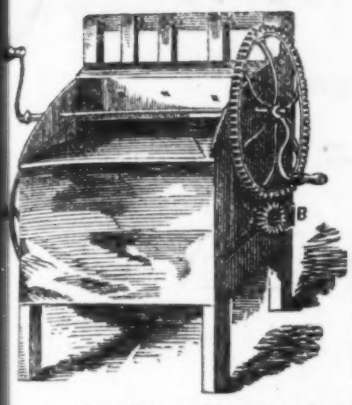
For **THROUGH TICKETS** and general information apply at the following places:

At NEW YORK, to J. L. SLEMMER, *cor. Park Place and Broadway, opposite the Park and one block above the Astor House.*
At PHILADELPHIA, to MR. BLACKWELL, *Library St.*, or to the TICKET SELLER at Balt. R. R. Station, *Broad & Prime Sts*
At BALTIMORE, to J. T. ENGLAND, *at Baltimore and Ohio Railroad Station.*
At WASHINGTON, to T. H. PARSONS, *Agent at Railroad Station.*

WASHINGTON BRANCH.

LEAVE BALTIMORE at - - - -	4 15 A. M.		LEAVE WASHINGTON, for Balt, at -	6 A. M.
Do. do. - - - - -	9 A. M.		Do. do. do. - -	8 A. M.
Do. do. - - - - -	3 30 P. M.		Do. do. do. - -	3½ P. M.
Do. do. - - - - -	7 P. M.		Do. do. do. - -	5 P. M.
On Sunday at - - - -	4 15 A. M.		*On Sunday* at - -	6 A. M.
Do. - - - - -	6 10 P. M.		Do. - -	5 P. M.

The FIRST and FOURTH Trains from Baltimore, and the SECOND and FOURTH Trains from Washington, will be Express Mail Trains—stopping only at Washington Junction and Annapolis.



MUMMA'S PREMIUM
CORN SHELLER.

PATENTED JUNE 12, 1849.

This sheller is better adapted to the wants of the farmer than any other, as it is simple and durable, not being liable to get out of order, and will shell new or old Corn, large and small ears perfectly clean, separating the cob from the corn. It runs light by hand, as with it a man and boy can shell 130 bushels per day—or two men 225—or with one horse from 400 to 500.

It is also easily converted into an excellent apple and vegetable grinder, which is certainly of great advantage, as it has recently been ascertained by actual experiment, tha vegetables, when ground into a pulp, go much further and produce more flesh than when cooked. It is also much safer to feed stock with ground instead of cut vegetables, as the sharp corners when cut, are apt to choke the animal.

This Machine has met with the universal approbation of allclasses of men wherever introduced. It was awarded the *first premium*, a heavy SILVER MEDAL, at the Great Fair of the Maryland Institute, held in Baltimore, October, 1850.

It also received the *highest premium* at the State Fair of Pennsylvania, in 1851, and at the State Fair of Kentucky, in 1852, and at the State Fair of Michigan in 1853, and at the Agricultural Fair of Franklin Co., Pa., and at the State Fair of Virginia at Richmond, in 1853, also, a beautiful SILVER MEDAL at the American Institute in New York, in 1853.

The Subscriber having purchased the Patent Right of the above Sheller for all the *United States* and *Territories*, will sell Township, County or State rights, on reasonable terms.

E. ROBINSON.

Greencastle, Franklin Co., Pa., Nov., 1853.

BRIGGS & VICKERE,

MANUFACTURERS OF

Plain, Ornamental & Enameled Chamber Furniture,

WHOLESALE AND RETAIL,

Nos. 165 and 171 Christie Street, New-York.

In offering, for the patronage of the public, goods of our own make, we feel confident of that success which industry in business and an honesty of purpose, that offers only good and warrantable articles, always merits, simply asking of all who wish to purchase to call and judge for themselves.

GEORGE BRIGGS.
WM. VICKERER.

N.B. Dealers supplied on liberal terms, and orders promptly attended to. Nov., '53,

---

PREPARED SUPER PHOSPHATE OF LIME,

BY THE UNION CHEMICAL WORKS, L. I.

HOYT & CO., AGENTS,

Nos. 234 Water Street, and 122 West Street, Corner of Dey St., New-York.

A FERTILIZER of the most approved quality, producing all the immediate effect of the best Peruvian Guano, with the advantage of being much more lasting in the soil. Thoroughly tested, and found to more than realize the expectations of all those who have already tried it. The best evidence of this is the largely increased demand this season over the past year. Put up in bags of 160 lbs.; barrels 250 lbs. each. Buyers will please be particular to observe our brand upon each bag or barrel.

Also for sale, American and Foreign Field and Garden Seeds, English Ray Grass, Foul Meadow Grass, fine mixed Lawn Grass, White Clover, Osage, Orange, &c.

Nov., '53, 1 y.

IRON BEDSTEADS.

COMSTOCK, BROMLEY & CO.,

ATLANTIC FOUNDRY, SOUTH BROOKLYN,

Manufacture every description of Plain and Ornamental Iron Bedsteads, with particular regard to style, material and workmanship

Sales Room No. 95 Leonard St., New-York,

ONE DOOR WEST OF BROADWAY.

FOLDING BEDSTEADS OF ALL KINDS.

Hotel, Hospital, Prison, Family, Servants' and Children's Bedsteads always on hand. Also a general assortment of Iron Furniture.

☞ These Bedsteads are superior to all other in point of cleanliness, neatness and economy. They are always free from vermin, and are exceedingly durable, portable and convenient. Orders to any extent may be addressed to

COMSTOCK, BROMLEY & CO.,
No. 95 Leonard-st.

ANDREWS & JESUP,

No. 70 PINE STREET, New-York,

COMMISSION MERCHANTS,

FOR THE SALE OF ALL KINDS OF

COTTON & WOOLLEN MACHINERY,

MACHINIST'S TOOLS, LEATHER BELTING, &C.; BROKERS IN DYE-WOODS, DYE-STUFFS AND OILS. ALSO, IMPORTERS AND DEALERS IN EVERY VARIETY OF

MANUFACTURERS' ARTICLES.

Oct. 13 times.

AGRICULTURE! MECHANICS! SCIENCE!

600 Splendid Engravings!

ONE DOLLAR A YEAR!

THE PEOPLE'S JOURNAL,

An Illustrated Record of Agriculture, Mechanics, Science, and Useful Knowledge.

Every Number contains 32 Large Pages of Letter Press, Beautifully Printed on Fine Paper and PROFUSELY ILLUSTRATED with ENGRAVINGS, forming, at the end of each year, TWO SPLENDID VOLUMES, comprising *Four Hundred Pages*, and Illustrated with about SIX HUNDRED ELEGANT ENGRAVINGS.

The People's Journal was commenced in November, 1853, and has already attained a large circulation. The November Number contained 49 engravings, the December Number 72 engravings, the January Number 47 engravings, the February Number 61 engravings, and the March issue has 59 engravings, making in all 279 illustrations, although only five Numbers have been published. These relate to Science, Art, Mechanics, Agriculture, and Useful Knowledge, in accordance with the general plan of the work. No publication of the kind has ever been produced with such magnificence or at so cheap a price. It is admired and taken by every one that sees it.

TERMS.—To Subscribers—*One Dollar a Year or Fifty Cents for Six Months*. All Subscriptions commence with the Number current when received. Money may be sent *by* mail in coin, post office stamps, or bills, at the risk of the publisher. The name of the Post office, County, and State, where the paper is desired to be sent, should be *plainly written*. Address, postage paid,

ALFRED E. BEACH,
Editor of the People's Journal,
86 NASSAU STREET, NEW-YORK CITY.

Postage on the People's Journal 1½ cents per quarter, or Six cents a year. A liberal discount to Post Masters and Agents. Single copies 1½ cents. Specimens sent on receipt of four postage stamps.

CAVEATS.

PEOPLES'S PATENT OFFICE, 86 Nassau St, New-York.

INVENTORS and others desiring to apply for Caveats, are informed that all the necessary drawings and papers are prepared by the undersigned with the utmost dispatch and on the most moderate terms. All other Patent business promptly attended to.

Persons wishing for information or advice relative to Patents or Inventions, may at all times consult the undersigned *without charge*, either personally at his office, or by letter. ALFRED E. BEACH, Solicitor of Patents,
86 *Nassau Street, New-York.*

THE PEOPLE'S PATENT OFFICE.

THIS well known establishment is still carried on under the personal superintendence of its founder, ALFRED E. BEACH, by whom all the necessary drawings, specifications, and documents, for Patents, Caveats, &c., are prepared with the utmost fidelity and dispatch.

Persons wishing for information or advice relative to Patents or Inventions, may at all times consult the undersigned *without charge*, either personally at his office, or by letter. To those living at a distance, he would state, that all the needful steps necessary to secure a Patent, can be arranged by letter, just as well as if the party were present, and the expense of a journey be thus saved. When parties wish to be informed as to the probability of being enabled to obtain Patents, it will be necessary for them to forward by mail a rough outline sketch and description of the invention. No fee or charge is made for such examinations.

All consultations and business strictly private and confidential.

The first step, always, in securing a Patent in this country, is to prepare a *model*, from which the necessary drawings are made. If the undersigned is engaged to prosecute the application and prepare the various papers, the model must first be sent to the PEOPLE'S PATENT OFFICE, 86 Nassau-st., New-York, after which it will be forwarded to Washington.

Models from a distance may be sent by express or otherwise.

For further information apply to or address, post paid, ALFRED E. BEACH,
Solicitor of American and Foreign Patents.
People's Patent Office, 86 Nassau-Street, New-York.

FOREIGN PATENTS.

PEOPLE'S PATENT OFFICE, 86 Nassau-st., New-York.

THE undersigned continues to act as Solicitor and Agent for securing Patents in all countries where they are granted. He is represented in Europe by honorable and reliable men of long tried experience, through whom he is enabled to secure patents in England, Scotland, Wales, Ireland, France, Belgium, Germany, Austria, Russia, Prussia, Spain Portugal, &c. His facilities for transacting foreign Patent business are unsurpassed. He can generally obtain Certificates of Provisional Protection from the British Patent Office, within six weeks from the time the invention is first committed to his care. The cost of British and other foreign Patents, to Americans, has been greatly reduced.

The undersigned may be at all times consulted, free of charge, by letter, or personally at his office in reference to Patents, Inventions, &c. All consultations and business strictly private. For further information, apply to or address

ALFRED E. BEACH
Solicitor of American and Foreign Patents, 86 Nassau st., New-York.

WATERS' PIANO AND MUSIC ROOMS,

333 BROADWAY, NEW YORK.

The best and most beautiful Pianos and Musical Instruments in the World,

AND THE MOST

COMPLETE COLLECTION OF MUSIC IN THE UNITED STATES.

T. GILBERT & Co.'s MAGNIFICENT PIANOS

Are the most beautifully finished—their superiority of tone, and solidity of construction, have earned them a world-wide reputation. Being constructed with *Iron Frames, they resist all changes of climate.* They are not only the best Pianos in the world, but, in consequence of the Manufacturers' immense business they are enabled to sell Pianos *cheaper than any other establishment in the United States.* They have for *nine years* added, with *great success*, their PATENT ÆOLIAN ATTACHMENT, which all artists acknowledge to be the greatest of all modern inventions. It is entirely independent of the Piano, and one may be out of tune without injuring the other. Wholesale or retail at Factory prices.

GILBERT'S BOUDOIR PIANOS.

These Pianos, adapted for small rooms, are acknowledged to be superior to Collard & Collard's Boudoirs (of London.)

MELODEONS.

S. D. & H. W. SMITH'S celebrated Melodeons are tuned in the equal temperament; the harmony is as good in the remote keys as in the common.

The editor of the *Musical Review* having fallen into the common error, that Prince & Co.'s Melodeons are *tuned the equal temperament*, corrects his mistake in the October number, 1853, and says—"We do know, however, that S. D. & H. W. Smith's Melodeons, sold by Horace Waters, 333 Broadway, is tuned to the equal temperament."

Goodman's Patent Melodeon.

A NEW INVENTION.—The Organ Melodeon, with two banks of keys. The only thing of the kind in the country; having two stops, coupler, swell, draw-stops, &c. A sweet and powerful instrument, pronounced by Organists to be superior for churches or organ practice—price $200. Also, the common Melodeons, of all styles and prices, and of superior quality, made by Messrs. GOODMAN & BALDWIN, and tuned in equal temperament Being the exclusive agents for these makers, orders are solicited. Usual discount made to the Trade, and 12½ per cent to Clergymen purchasing either Pianos or Melodeons for their own use, or for the Church.

SECOND HAND PIANOS,

Nearly equal to new, from the best manufactories, at great bargains, from $100 to $300. They are sold at low prices, because Mr. W. *buys them cheap;* but very often he has on hand Instruments, which, owing to accident, removal, or misfortune, have been left with him for sale, or been purchased to sell again; and in all such cases, the buyer strikes just so far below the usual price as Mr. W. can strike himself. He has but *one rule.* He charges a *regular* commission on all instruments, and this is but a *small advance on cost.* A flourishing business makes this the best policy—his experience has proved it.

Martin's Unrivalled Guitars, and Brown's Unequaled Harps. Sheet Music and the Musical Works of all the popular Composers of both Continents.

That the cultivators of the Art of Music may know how far the efforts of Mr. Waters, to improve the quality and beauty of Instruments, and to reduce their price, have been crowned with success, he confidently appeals to the following

OPINIONS OF THE AMERICAN PRESS.

"The Æolian Pianoforte is undoubtedly the most perfect musical instrument human ingenuity has constructed. Two instruments are blended in one. The Æolian is both attached and detached; so that the Piano may be played with or without it; or, with one hand the performor may elicit the melodious strains of the Æolian, and with the other invoke the harmonies of the Piano. The instrument which, in the evening incited to the dance, or aided the festive song, gives forth, in the morning, the pealing tones which prelude and accompany the solemn hymn. Mr. Waters' new rooms are very inviting to the lovers of music. But he has nothing in his rooms equal in beauty and completeness to Gilbert's Æolian Pianofortes."—*Morris and Willis' Home Journal.*

"The variety and beauty of the effects can only be appreciated by those who hear these magnificent instruments at Mr. Waters' establishment."—*New York Tribune.*

"These superb instruments, which so far surpass any other we have heard, are furnished by Mr. Waters at the same price as at the manufactory, and the buyers may feel assured of fair dealing and upright treatment.—*N. Y. Evangelist.*

"A very good tuner and excellent musician, says he never was called on to tune but one Æolian Piano during all his experience, which shows that they do not easily get out of repair."—*Inquirer and National Gazette, Phila.*

"It is a fact worth mentioning, that T. Gilbert & Co.'s Æolian Pianos have never been exhibited at home or abroad, in a Crystal Palace, or a City Fair, without carrying away a premium. The latest prize was at our Crystal Palace. Mr. Horace Waters, 333 Broadway, has the largest variety of these inimitable Pianos, which, in addition to his immense collection of other musical instruments, constitute the most attractive and brilliant Musical Depot in New York."—*Evening Express.*

More than one thousand other journals hold the same language of commendation.

UNPARALLELED BARGAINS!

EXTRAORDINARY ATTRACTIONS

AT THE CELEBRATED, LARGEST, AND CHEAPEST

CARPET ESTABLISHMENT

IN THE UNITED STATES,

AT

HIRAM ANDERSON'S,

No. 99 BOWERY, N. Y.,

IMPORTER OF ENGLISH, FRENCH, AND GERMAN CARPETS.

BUYERS will find the largest Stock of Low Price and Medium to the most elaborate Aubusson, Mosaic, Medallion, and Velvet Carpets ever offered in the world at tremendous low prices.

TEN SPACIOUS SALES ROOMS

Above ground, no damp Basements or Vaults under the sidewalk to endanger the health of Lady purchasers; each Sales Room is devoted exclusively to one description of Carpets. The Wholesale and Retail Departments of this Establishment have been enlarged and an addition of two extensive Sales Rooms, making a wonderful and gorgeous display.

Sales Room, No. 1.

Floor Oil Cloths.—An enormous Stock of John Hare & Son's celebrated English Oil Cloths; also, American Floor Oil Cloths of magnificent satin finish, Fresco, Marble, Italian, and Scroll Paintings, from 2s. 6d., 3s., 4s., 5s., 6s., to 9s. per yard, from 3 feet to 24 feet wide and 90 long.

Sales Room, No. 2.

Ingrain Carpets.—Two hundred and fifty pieces of English and American Ingrain Carpetings, all new style, manufactured expressly for this establishment, at unparalleled Bargains.

Sales Room, No. 3.

Three Ply Carpets.—English, Scotch, and American Imperial Three Ply Carpeting of our own Importation; gorgeous, splendid new style of pattern.

Sales Room, No. 4.

Low Price Ingrain Carpets.—Three hundred pieces of Medium quality Ingrain Carpets, beautiful large and small patterns, manufactured for the City trade, incredible low prices of 2s. 6d., 3s., 4s., 5s. per yard.

Sales Room, No. 5.

Rugs and Druggets.—English Druggets 4 yards wide, 3,000 yards of low priced Druggets, 1 to 3 yards wide, at 3s. 6d. to 6s. per yard, also an immense assortment of Mosaic Landscape, Axminster, and Tufted Hearth Rug; also 2,000 Tufted Rugs at 16s. to 24s. each.

Sales Room, No. 6.

Stair and Hall Carpets.—50,000 yards of striped and figured Hall and Stair Carpets at 2s., 2s. 6d., 3s., 3s. 6d., 4s., 5s., 6s., and 7s. Also, Hemp, Dutch, and Manilla Carpets for Rooms, Halls, and Stores, cheap.

Sales Room, No. 7.

Medallion Carpets, with borders; Mosaic and Axminster of one entire piece, can be fitted to any sized Room from $350 to $1,000.

Royal Velvet, Tapestry, and Brussels, from the celebrated Factories of John Crossly & Sons, and Messrs. Henderson & Co., and others, England, all of our own Importation, some of which are exclusively our own styles, and can not be found at any other establishment.

Sales Room, No. 8.

Aubusson Carpets.—They elicit the warmest commendations of every beholder, excel in beauty and durability, are sold at moderate prices, and introduced in the market at this Establishment.

Sales Room, No. 9.

Velvet, Tapestry, Brussels three-ply and twilled Venetian Stair Carpeting, remarkably cheap.

Sales Room, No. 10.

Patent Tapestry Ingrain Carpets.—Gold, Plain, White, Buff, and Scroll Window Shades, at 6s., 12s., 20s., 40s. to $10 per pair; Table and Piano Covers, Silver and Brass Stair Rods, Parlor Door Mats, Coir Matting; also, 4s. 3d. 5s. 6d. White and Check Canton Matting, etc., etc.

HIRAM ANDERSON,
99 Bowery, New York.

N.B.—Buyers, Strangers, Citizens, Retail Dealers, and Merchants from abroad will find it to their advantage to examine this enormous stock, at tremendous bargains.

One of the most experienced Upholsterers is engaged to cut and lay Carpets, Oil Cloths, and hang Window Shades, etc